THIS WEEK'S National Petroleum NEWS

Index to Coming Meetings

Northwest Petroleum Association, Androy Hotel, Superior, Wis., to discuss code of ethics, Sept. 9.

Independent Oil Men's Association of New England: Providence, R. I., Sept. 11; Worcester, Mass., Oct. 9.

American Chemical Society, Petroleum Division, Minneapolis, Minn., beginning Sept. 9.

National Petroleum Association, Hotel Traymore, Atlantic City, N. J., Sept. 18, 19, 20.

Ohio Petroleum Marketers Association, Deshler-Wallick Hotel, Columbus, O., Sept. 18, 19.

Rocky Mountain Oil & Gas Association, Montana division, Paliser Hotel, Calgary, Alta., Sept. 19, 20, 21.

Virginia Oil Men's Association, Patrick Henry Hotel, Roanoke, Va., Sept. 26, 27.

National Safety Council, Petroleum Section, Congress Hotel, Chicago, Sept. 30, to Oct. 5.

National Association of Credit Men, Refinery Credit Managers to meet, Mayo Hotel, Tulsa, Oct. 3, 4.

Texas Petroleum Marketers Association, Plaza Hotel, San Antonio, Oct. 3, 4, 5.

International Petroleum Congress, Tulsa, Oct. 5.

American Petroleum Institute, Division of Development and Production Engineering, Tulsa, Oct. 7, 8. (To meet during Tulsa Expo.)

Missouri Oil Men's Association, President Hotel, Kansas City, Mo., Oct. 15.

Pennsylvania Independent Oil Men's Association, William Penn Hotel, Pittsburgh, Pa., Oct. 15, 16.

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Photo by Blank-Stoller, Inc.

ROBERT G. STEWART, president of the Pan American Petroleum & Transport Co. and that company's major subsidiaries, has been in the oil industry actively 15 years but because he is the son of Col. Robert W. Stewart, he has spent all his life in an oil atmosphere.

The younger Mr. Stewart joined the Standard of Indiana as a salesman at Minneapolis in 1914. He later was transferred to Mankato, Minn., where he was assistant manager and then manager. In 1919 he was appointed assistant general manager at Chicago.

He left the Standard in 1925 to be managing director of the British Mexican Petroleum Co. at London but returned to the United States after a year to be vice-president of Pan American and president of Pan American Petroleum Corp., a subsidiary operating in the south. He was elected a director and president of the parent company in 1927.

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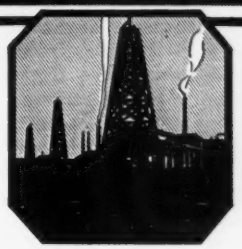

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Administration of New California Gas Law Presents Many Problems

By Lester C. Uren

Professor of Petroleum Engineering, University of California, Berkeley, Calif.

LOS ANGELES, Aug. 31

WITHOUT doubt rigid enforcement of the new California gas conservation law would result in radical changes in present highly competitive methods of field exploitation, particularly in the flush fields where a gas surplus of considerable magnitude exists.

In as much as several important California fields, now yielding a large percentage of the State's total oil production, are among those in which a gas surplus exists, and since prompt compliance with the law can only be secured by shutting in or partially shutting in the more prolific wells, it follows that one of the first results will be a reduction in the rate of oil production.

Engineers who have studied this phase of the situation believe that a curtailment of something like 200,000 barrels per day in California's current oil production may be expected. The present daily rate of production is about 880,000 barrels, hence a reduction of upwards of 20 per cent is indicated. This need not be a permanent reduction, for operators may and undoubtedly will avail themselves of the alternatives of developing a greater market for gas and of storing the surplus gas in under-ground reservoirs, but these alternatives can only be gradually made operative.

Expansion in Commercial Outlets for California Natural Gas

The cities of central California, including the important metropolitan area about San Francisco Bay, have heretofore been supplied with manufactured gas, but recent pipe-line construction and other pipe-line projects now contemplated, promise to provide important new outlets for natural gas produced in the San Joaquin Valley fields. The Kettleman Hills-San Francisco pipe-line, placed in operation in mid-August, provides a new market for about 60-million cubic feet daily, which will be increased to 120-million when booster stations along the line are provided.

The Pacific Gas and Electric Co., which is developing this new outlet for natural gas, contemplates serving its domestic consumers with a mixture containing 50 per cent natural and 50 per cent manufactured gas, but has recently announced its intention to build a supplementary pipe line, and with the additional security in continuity of supply thus assured, will serve pure natural gas to both domestic and industrial consumers. This will provide a substantial additional market for natural gas.

Pipe lines to other less important population and industrial centers are also under construction or contemplated, the focal point of supply being the Kettleman Hills area in Fresno and Kings counties and the Button Willow area in Kern County.

THE eyes of our industry are centered on California as that state begins its attempt to prevent waste of gas.

California operators are making oil conservation history in pioneering the plan.

Prof. Uren has written the accompanying discussion of administrative problems in connection with the new law especially for readers of NATIONAL PETROLEUM NEWS—Editor.

While these central California pipe lines will for the present be an isolated system, dependent exclusively upon the San Joaquin Valley fields for supply, additional lines now contemplated by the Southern California Gas Co. will provide intercommunication with southern California's extensive pipe-line system, which connects nearly all of the important cities of the south with the various Los Angeles Basin, Coastal and southern San Joaquin Valley fields.

California's first long-distance pipe line for natural gas transmission, connecting Los Angeles and surrounding cities with the Midway-Sunset-Buena Vista Hills area in southern Kern County, has its northern terminal only 75 miles south of the Kettleman Hills field, from which gas is to be moved northward to San Francisco and other central California cities.

A pipe-line bridging this gap will provide intercommunication between these two systems and permit of transmission of gas from all of the important gas-producing fields either north or south to each of the two important consuming regions. This expansion to the north and the proposed intercommunicating link with the natural-gas pipe-line system of the south, will give to the natural gas industry of California a greatly increased market and a stability that it has not hitherto enjoyed.

From the stand-point of the oil producer and his obligations under the new gas conservation law, this expansion comes at an opportune time; otherwise, far more serious curtailment in oil production activity would necessarily result.

It is quite possible that within a year's time, this expansion in commercial outlets for natural gas may

take care of a large part of a surplus even of the magnitude of that now existing: assuming that it persists for so long a period. The present gas surplus is said to be about 800 million cubic feet daily.

OF the remainder of the State's total gas production, commercial sales for domestic and industrial purposes have averaged about 1565-million cubic feet, while field use, normal shrinkage, etc., has accounted for about 420 million cubic feet daily. C. C. Brown of the State Railroad Commission, estimates that the commercial demand during the coming winter will be about 300-million cubic feet daily in excess of the figure quoted above.

Under-Ground Storage of Natural Gas

Such gas as is produced in the operation of oil wells that cannot be disposed of through commercial channels must, according to the provisions of the new gas conservation law, be reinjected into suitable subterranean reservoirs where it may be stored for future use or used in restoring pressure in partially depleted oil sands, thus assisting in securing additional oil recovery.

Within recent years, California operators have become convinced of the efficacy of repressuring and gas-driving as a means of stimulating oil recovery and it is expected that wherever competitive conditions permit, this method of caring for the gas surplus will be adopted.

During the last two years, great quantities of gas have been returned to the sands in California fields, so that the physical and economic problems incidental thereto are well understood, at least by the larger producers. Operations of this character have proven profitable in the Dominguez, Coyote Hills, and to some extent in the Long Beach and Seal Beach fields where the character of property ownership permitted, and doubtless would prove advantageous in other fields if the operators could be brought together in a cooperative program.

A well conceived program of this character failed of consummation in the Santa Fe Springs field last December, when a small minority refused to agree on methods of back-pressuring deep-zone wells and repressuring shallow zones that the majority of the operators wished to adopt. It is believed that the new state law had its inception largely in the failure of cooperative measures at Santa Fe Springs. The larger operators, unable to secure cooperation from a minority of small producers in their conservation efforts, sought legislative assistance and the new law is the result.

The law, in effect, provides machinery for compelling adherence on the part of all operators to a concerted plan of gas control which will reduce gas wastage and provide a greater measure of oil-production control.

It is expected that early attention of the state oil and gas supervisor's department will be directed to the situation at Santa Fe Springs, where a large surplus of natural gas production now exists. Operators seeking production from the deep Clarke, Buckbee and O'Connell zones under highly competitive conditions, are producing oil from these horizons with high gas-oil ratios which, it is believed could be materially reduced by adoption of a concerted programme of back-pressuring the wells. This however, would probably result in a considerable curtailment in their current rate of oil production and a gas surplus would probably still exist.

It has been proposed however, that this surplus gas could be economically employed in repressuring the upper Meyer and Ball zones under a cooperative plan whereby the cost of injecting the gas into the overlying partially depleted zones would be shared, and the pressure control of all outlets therefrom would be regulated by mutual agreement among the operators benefitted.[2] It is probable that some such plan will be revived and the weight of State authority provided under the new law will be invoked in bringing the recalcitrant minority into line with the majority.

THE State may bring about adherance to such a program through its directly expressed power to specify and enforce equitable gas-oil ratios for all wells in a productive area. For example, if 2000 cubic feet per barrel were determined upon as a proper gas-oil ratio for Clarke zone wells in the town-lot area of the Santa Fe Springs field, the state supervisor is empowered to set this as a limit which may not be exceeded by any operator in the area. Owners of wells producing more than the specified ratio of gas would be compelled to apply back-pressure to the offending wells until the maximum allowable gas ratio is attained, or if necessary, even shut them in entirely.

While the State would have no authority to compel an operator to enter a cooperative agreement to repressure an area, it would generally be to his interests to do so as a means of disposing of his surplus gas and thus complying with another important requirement of the law.

The particular gas-oil ratio to be set up as the maximum allowable ratio will not, of course, be the same in every field, for the physical and economic factors which determine the most advantageous ratio will vary within wide limits. A gas ratio appropriate for the newly discovered deep zones in the Santa Fe Springs field would possibly be too low for the Ventura Avenue field, and perhaps too high for the Elwood field.

In fact, it is likely that different gas ratios will be set up for different parts of the same field, or even, in extreme cases, for individual properties or groups of wells on neighboring properties. Position on structure, the age of the wells, intensity of development and other factors must be taken into account in determining what constitutes an equitable gas ratio to impose.

IN ADOPTING ratios for different fields, state officials will doubtless resort to the plan of holding hearings at which operators interested will be asked to present information and opinions which will aid in determining equitable ratios. Dependence will possibly also be placed on the advice of representative committees of operators in different fields which have been active in studying gas conservation measures during recent months, and which may in future be appointed to assist in solving this and related problems.

Committees active in gas conservation work have for the most part, been made up of executives and engineers from the various interested companies: men thoroughly representative of the best talent available to the industry. Through these committees, the industry may hope to secure a large measure of self-determination in meeting the requirements of the new law.

Companies Holding Commercial Gas Contracts in Advantageous Position

Under the new conservation law, the oil producer is required to show an economic use for all gas produced. If he cannot do so, he must curtail his operations until a gas surplus not economically employed no longer exists. If the oil producer cannot himself find economic use for all the gas that he produces, he may comply with the law and still continue without restriction in his oil producing operations if he turns his gas surplus over to another who can find economic use for it.

This introduces a new and interesting factor into the natural gas industry, for whereas gas production has heretofore been regarded as a by-product of the nature of an asset in oil production, it may now partake of the nature of a liability. It is conceivable that under certain conditions, in flush fields, it will actually be to the advantage of an operator to pay some one to take his surplus gas away and make use of it in some way that will fulfill the requirements imposed by the State law.

In the Elwood field for example, a comparatively new and somewhat isolated field, in which no immediate outlet for the surplus gas exists, compliance with the new law would

2. For a detailed discussion of the proposed Santa Fe Springs conservation program, see an article by the Author in NATIONAL PETROLEUM NEWS, issues of Dec. 26, 1928 and January 9 and 16, 1929.

possibly require a considerable curtailment of oil production. Pioneer interests in position to produce oil in large volume and eager to do so in meeting their present market obligations, or before neighboring properties are fully developed, may find it in their interests to pay a substantial part of the cost of transmitting the gas to other fields (possibly the old Santa Maria field) where reinjection of the gas in repressuring operations will create an economic use within the provisions of the new law.

Oil producers and gas distributing companies who are in a position to find economic outlets for surplus gas in flush fields, are thus placed in an advantageous position by the new law, in comparison with those who are not so situated. The operator who, by reason of a contract previously made with some gas utility company, is in a position to continue his oil producing activities without curtailment, enjoys a material advantage over his neighbor, who has not been in a position or has not had the business foresight to make such an agreement.

The obvious inequality in opportunity imposed by the new law in this regard, is the chief objection that has been raised against it and certain operators who are in a position to suffer loss thereby have threatened legal proceedings on constitutional grounds.

Economically Disposable Gas to Be Prorated Among Oil Producers

Realizing the danger of the new law being declared unconstitutional through such inequality in restriction of oil-producing operations, a group of the large oil companies, anxious to give the new law every chance to succeed in its intended purpose, have come forward with the proposal that the right to produce gas be pro-rated among the oil producers concerned, and that those in a position to dispose of gas to outside consumers or by reinjection, or otherwise, shall give their less fortunate neighbors an equal opportunity to make use of the available gas outlets. It is believed that such a plan, if consummated, would defeat any effort that might be made to have the new law declared unconstitutional on the ground of unequal opportunity.

This plan has been brought to the attention of the oil and gas supervisor for his approval, and Supervisor R. D. Bush in a letter recently addressed to the lessors, lessees and operators in all of the flush fields of the Los Angeles Basin and coastal areas, states that he is inclined to approve the plan in principle providing all operators be given an equal opportunity to join therein.

The plan contemplates delivering pro-rated surplus gas to operators now having contracts with the gas marketing and distributing companies without charge, they being permitted to sell it through contractual channels and receive payment therefor as though it were their own.

All gas used in any field for fuel and other operative purposes, and all gas used for repressuring, will also be taken pro rata from all the operators in said field, provided that in the case of gas used for repressuring, operators must contribute pro rata to the cost of injection. It is considered that this plan does not deprive the owner of surplus gas of any right or source of revenue that he now enjoys, and yet it places the owner of a gas disposal contract in the same position as his less fortunate neighbors in so far as the right to produce oil is concerned.

It is rumored that an association of operators is to be formed having jurisdiction over all matters incidental to the pro-rating and disposal of gas in the Los Angeles Basin and coastal fields. It is planned that this association shall supervise prorating of gas in the various fields under the abovementioned agreement, take charge of the existing commercial outlets for gas and assume the responsibility of developing new outlets, particularly in expanding the market for gas and in promoting repressuring projects.

Such an organization would assume an important place in future control of the industry, particularly in the power which it would have of prorating gas production as between the operators in one field and another. Difficult problems are presented in fixing equities in gas taken from the operators in one field and used in the repressuring of properties in other fields, but it is hoped that the proposed association might be able to negotiate agreements which would permit of practical application of such a plan.

The primary purpose of the proposed association is to afford an opportunity for every oil producer to have an equal opportunity in making physical disposition of the gas produced, so that no one will be obliged to blow gas into the air or curtail his production disproportionately to his neighbors.

Proposals for Disposing Of Excess Gas

LOS ANGELES, Aug. 31.—The proposed plan for disposing of excess gas production from Los Angeles basin fields and Ventura Avenue, which is expected to be put into effect is as follows:

1. That the amount of gas sold to the gas companies shall be taken pro rata from all the producers, but that the companies having the contracts shall receive the payment for such gas in accordance with the terms of their contracts, as though their own gas had been delivered thereunder.

2. That all gas used in the field for fuel or other operative purposes shall be taken pro rata from all operators in the field.

3. That all gas used for repressuring in the field from which the gas is produced shall be taken pro rata from all operators in the field, who shall contribute pro rata to the cost of injection of the gas. This arrangement is made on the theory that each of the contributors will have a pro rata opportunity of recapturing the gas when the time arrives for its recovery.

Arrangements are being made to remove gas from fields with high oil to gas ratios to distant fields that are nearly depleted. It is understood that the gas so stored will be taken pro rata from the producers without charge to the producer for injection or transportation. The gas when recaptured will belong to the operators contributing toward the cost of injection, subject to such arrangements as can be made with the owner of the reservoir.

The term pro rata, as applied to this plan, is understood to mean the proportion that the producers' maximum potential production of gas, limited by a maximum oil and gas ratio to be hereafter established, bears to the total maximum potential production of the field under the same limitation.

Operators Consider Taking Entire Okla. City Pool Off Market

By Telegraph
TULSA, Sept. 3

OKLAHOMA CITY operators in a meeting held in Tulsa today decided to present to the state corporation commission the facts concerning congestion in that pool and, as stated in the public communication issued "all operators signified their willingness to not oppose any fair order even if it requires a complete shut in of all oil wells for a period of 30 days."

Petition to the commission asking for a hearing is being drafted at this time and will be presented in the name of one company, probably the Indian Territory Illuminating Oil Co., the largest operator. It will ask that the commission hold a public hearing and the commission is to be told at such hearing that a proration plan would not be satisfactory as some of the wells are making water.

A complete shut down would be equitable to all. It is understood that sentiment in the meeting was unanimous on this point.

Purchasing companies also are unanimous in their stand that the pipe line and tank car outlet does not represent the market, that they are burdened with crude elsewhere and cannot guarantee to continue buying the Oklahoma City production. Due to the limited actual market for the oil waste is threatened and the commission will be asked to assist by temporarily taking the field off the market.

Opinion in the meeting was that wells which are making water should be allowed to produce one day each week to see what effect the shut-in has. After the lifting of the shut-down such wells would continue their shut-in period for as many days as they produce during the life of the order. As reasonable notice must be given of such hearings it is expected that it will be somewhere around Sept. 10, before the matter comes before the commission for action in public hearing. Some opposition from the royalty owners is expected.

TULSA, Aug. 31.—Deeply concerned over the growing production in the Oklahoma City pool, which has passed the 50,000-barrel daily mark and promises to at least double that figure, operators of the district began the past week to work out some form of restriction.

Meeting in Tulsa Aug. 27, representatives of nearly all the companies producing and purchasing oil in the pool heard a proration proposal that had been worked out by a committee. Action on this was deferred until the next day until Tulsa representatives of the Sinclair Oil & Gas Co. could submit the proposal to New York executives.

On the day following the operators met again, this time in closed session, and shortly after the meeting was started one of the number made the proposal that really drastic action be taken. He suggested a complete shut-down of all producing wells in the field for 30 days, taking the pool off the market entirely for that period. Drilling wells would be continued until they had set casing near the pay, then they would delay completion for 30 days from the time the casing was set.

It is certain that some of the purchasers of oil in the field would gladly cease buying for 30 days. Oil is going into storage at the rate of 40,000 barrels daily in Oklahoma and Kansas, most of it in Oklahoma, and purchasers are carrying about all the burden they care to assume.

A "soft" spot in the crude market of the Mid-Continent and Texas is the Panhandle district, Texas. Gray county production continues to increase and a temporary congestion of facilities has led to offers of oil at 17½ and 20 cents below the posted market. Operators in a meeting more than a week ago decided to shut down 42 drilling wells not offsetting production. The locations that are active in proven territory promise a continuance of the present high rate of output.

In its report to the operators, the Oklahoma City pool committee set up the estimated market for the oil as follows:

Pipe Lines

	Barrels
Empire Pipe Line Co.	20,000
Prairie Pipe Line Co.	11,000
	31,000

Tank Car-Loading Racks

Healdton Pipe Line Co. (Carter)	4,200
I. T. I. O. & Foster.....(Empire)	2,000
I. T. I. O. & Foster.....(Carter)	2,000
Shell Pet. Corp.....(Shell)	5,000
	13,200
Grand Total	44,200

Estimated Pipe Line and Tank Car Capacity

Company	Pipe Line & Tank Car Capacity	Markets
Empire Pipe Line	35,000	20,000
Prairie Pipe Line	24,000	11,000
Oklahoma Pipe Line*	20,000	20,000
Healdton Pipe Line (tank car)	20,000	5,000
I. T. I. O. (tank car)	22,000	4,000
Shell Petroleum (tank car)	5,000	5,000
	126,000	65,000

*To be available about Oct. 10

As against estimated markets of around 45,000 barrels daily, with the Carter's (Oklahoma Pipe Line Co.) facilities not ready for another month, the committee estimated new initial production to come in during September of more than 50,000 barrels.

American Petroleum Institute report of refinery operations in the United States for the week ended Aug. 31, compared with the week ended Aug. 24

Districts	Per Cent of Capacity Reporting	Crude Run to Stills Wk. Ended Aug. 31 (Barrels)	Crude Run to Stills Wk. Ended Aug. 24 (Barrels)	Per cent of Reporting Capacity Operated Wk. Ended Aug. 31	Per Cent of Reporting Capacity Operated Wk. Ended Aug. 24	—Stocks Reported in Thousands of Barrels— Gasoline Stocks Aug. 31	Gasoline Stocks Aug. 24	Gas and Fuel Oil Stocks Aug. 31	Gas and Fuel Oil Stocks Aug. 24
East Coast	100.0	3,579,000	3,563,700	90.2	89.8	4,104	4,341	8,418	8,449
Appalachian	88.3	616,400	516,900	85.5	72.8	867	911	775	777
Ind.-Ill.-Ky.	98.7	2,127,500	2,167,500	93.6	95.3	4,687	4,983	3,442	3,420
Okla.-Kan.-Mo.	79.5	1,895,300	1,868,800	80.3	79.4	2,435	2,582	4,665	4,590
Texas	89.5	3,957,900	3,956,000	90.5	91.1	3,765	4,104	12,762	12,766
La.-Ark.	96.9	1,279,900	1,287,100	76.1	77.1	1,791	1.721	5,389	5,383
Rocky Mountain	93.4	485,400	537,100	55.8	61.8	1,803	1,789	936	933
California	94.9	4,871,400	5,068,000	87.3	87.3	11,781	11,966	107,397	106,983
Total U. S.	92.9	18,830,800	18,965,100	86.2	86.2	31,233	32,397	143,784	143,301
Texas (Gulf Coast)	100.0	3,052,900	3,042,400	93.1	93.9	3,036	3,456	9,665	9,699
La. (Gulf Coast)	100.0	895,300	894,800	82.5	82.5	1,512	1,459	4,538	4,546

Aviation Fuel Specifications Are Next Before 3-Company Stanavo Board

By Paul Truesdell
N. P. N. STAFF WRITER

NEW YORK, Aug. 29 DETERMINATION of the best type of motor fuel for use in aircraft engines, arrangements for making such fuel available to flyers everywhere and formulation of methods for testing are expected to be the next objectives of the Stanavo Specification Board after it has established the line of Stanavo lubricating oils for airplanes on a satisfactory basis.

The Stanavo Specification Board, as announced in the Aug. 28 issue of NATIONAL PETROLEUM NEWS, page 27, is a joint enterprise of the Standard Oil Co. of New Jersey, the Standard of Indiana and the Standard of California. The board is made up of six technologists, two representing each of the three companies.

Its object is to establish lines of petroleum products suitable for aviation use, write specifications for them and make them available wherever planes are flown. Since the announcement of the launching of this enterprise, three important questions probably have occurred to everybody interested in the manufacture and sale of refined products. These are:

1. What next?
2. Will the Stanavo Specification Board, in its organization and its operations collide with the anti-trust laws of the United States?
3. Is it the purpose of the three companies involved to divide the United States into three marketing territories for the sale of airplane lubricants and fuels and allot one territory to each of the companies?

These are the answers to the three questions as they were given to me:

1. Airplane fuel is next to receive attention from the board.

2. The board has nothing to fear from the department of justice or other government agency on the ground that it constitutes a restraint of trade in any way. The lawyers of the three companies, who canvassed the situation thoroughly, are said to have been unanimous on this point from the start.

3. There will be no attempt to allocate territories. It is explained that the three companies concerned decided on this joint action because, roughly, their combined natural marketing territories embraced the entire United States. The Standard of California, of course, covers the Pacific coast states and as far east as New Mexico and Arizona, the Standard of Indiana covers 11 middle western states and the Standard of New Jersey covers a large part of the east and southeast.

It is explained, however, that there is no agreement or understanding of any sort among the three companies as to where they shall or shall not market the products developed and specified by the Stanavo Specification Board. In fact, it is expected that there will be considerable overlapping in various sections in the marketing of the special aircraft products, as there now is among these companies in selling other products.

The board is described as not being a company, not incorporated and not capitalized; it is merely a voluntary association made up of six men, two representing each of the three companies.

The instructions given these men are to determine and write specifications for the best products they can develop for the purpose, regardless of the cost of making such products. The decisions of the board on quality will be final as far as the three companies are concerned.

It is stated, however, that the formation of the joint specification board will not prevent any or each of the companies represented from making and marketing other fuels and lubricants for aircraft than those specified by the board. It is thought that the cost of products developed by the board may be so high that many operators of aircraft will prefer to buy lower priced fuels and oils, as some truck fleet owners and private car owners too, prefer to buy the regular competitive grade of gasoline rather than a premium product.

It is explained that the primary purpose behind the formation of this board of experts was to encourage the development of aviation. Nearly all progressive oil companies are now actively engaged in promoting development of aviation and most of them are thought to be spending more money by far along this line than they can hope to get back in profits from serving aircraft for many years to come.

To share the expenses of such promotion work and at the same time to sponsor a group of experts whose research work and recommendations would command respect, was the purpose which actuated these three companies favorably located geographically to join forces.

Discussion with oil men here in New York gives the impression that leaders in the oil industry generally, are rather pessimistic about the immediate future of aviation insofar as offering a market for fuel and lubricants are concerned.

It is estimated by a man who has given the subject much study that it costs about $10,000 a year to maintain an airplane in service, provided it is used to any useful extent. This is apart from the original cost of the plane.

Most students of the subject believe that for a long time to come the principal use of airplanes will be by well established and well financed transportation companies who operate them on a regular schedule.

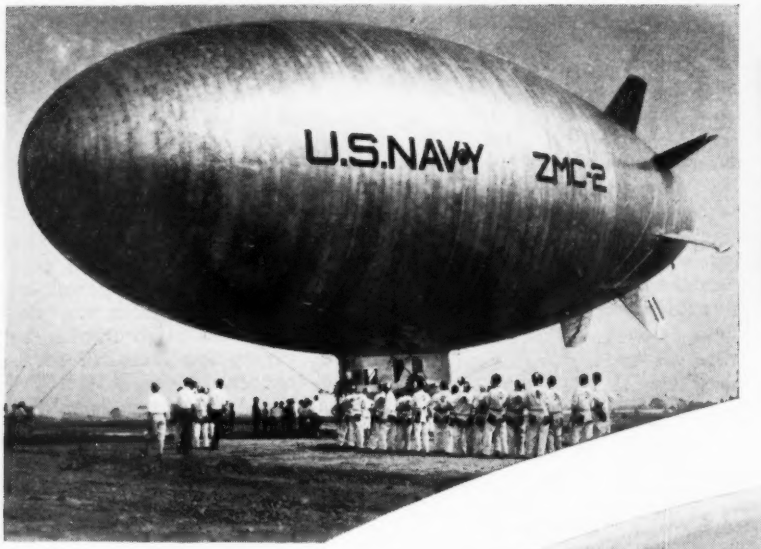
Charles F. Kettering, vice-president of the General Motors Corp. and director of its research department, is quoted as estimating that 14,000 planes will fill the need of the country for transportation units for some time to come.

Oil company and automotive technologists generally believe that some important new development must come before the airplane will be an everyday vehicle in the hands of everybody as the automobile is now.

The general opinion is, too, that this does not mean some slight improvement but a radical change in design or some other vital element. Of course, a great deal of research is being carried on in all phases of aeronautics and it is to stimulate such research and perhaps hasten the day when flying will become universal that the joint specification board was established.

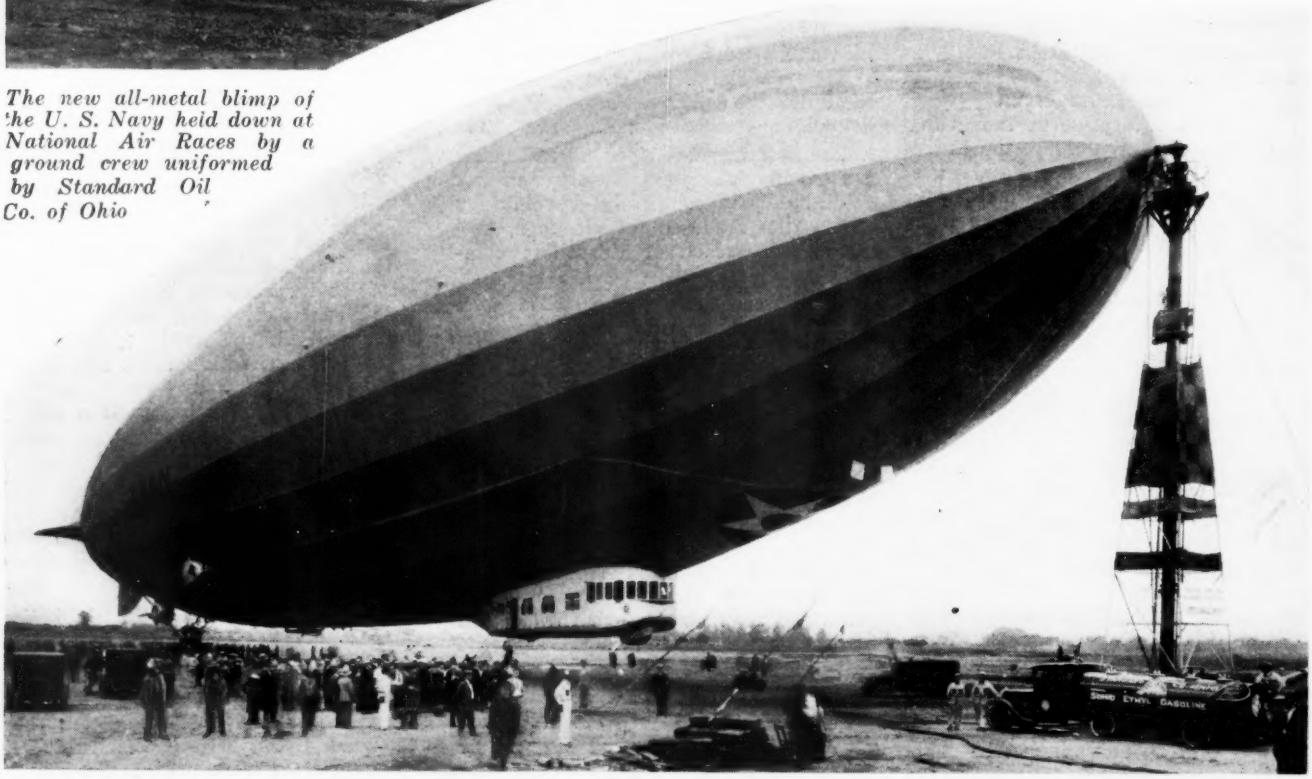
There is considerable speculation as to what line the Stanavo Specification Board will follow in its fuel research work. One of the most outstanding problems in the development of long distance flying, especially over the ocean, is to lighten the load of fuel that must be carried to give an adequate cruising distance. One way to do this, of course, would be to increase the compression pressure of airplane engines, thereby getting more mileage out of the same amount of fuel. Most airplane engines at present are at relatively low compression pressure. Therefore, the question is being asked whether early work of the board on fuel will not be toward establishing a fuel not only of the proper volatility characteristics but also of high anti-knock value.

Ground Glimpses of Aircraft and People



The new all-metal blimp of the U. S. Navy held down at National Air Races by a ground crew uniformed by Standard Oil Co. of Ohio

Left, C. F. Lienesch, manager of technical relations and aviation, Union Oil Co., Los Angeles, and right, J. M. Evans, manager of sales engineering and development, Associated Oil Co., San Francisco



The Los Angeles of the United States Navy taking on a charge of 1300 *gallons of fighting grade, aviation gasoline*

A section of the three-quarter mile grandstand at the National Air Races, with several hundred military and private airplanes "across the track" in the flying field.

At the National Air Races in Cleveland

Leslie Smith, advertising manager of Standard Oil Co. of Ohio, who directed Sohio rubberneck flights at races

Standard Oil Co. of California plane, one of three used in introducing Stanavo aviation motor oil

The Gold Shell, the ship of Shell Petroleum Co. used to entertain visitors at air races

Two of The Texas Co.'s fleet of planes at National Air Races

A Cities Service Oil Co. ship "on the line" at the National Air Races

"Richfield Red" (E. R. Woods) who was in charge of the dressy Richfield Oil Co. fueling truck at National Air Races

National Petroleum Association To Meet Sept. 18 to 20

CLEVELAND, Sept. 4

A TIMELY program has been arranged for the annual meeting of the National Petroleum Association to be held at the Hotel Traymore, Atlantic City, Sept. 18, 19 and 20, according to announcement by Fayette B. Dow, general counsel. The California situation, analysis of the code of marketing practices, economics of the industry and other subjects of importance are to be presented by competent speakers.

Mr. Dow has urged members of the association who expect to attend to make early hotel reservations. He announced that the Traymore will be crowded during the meeting.

E. M. Lyons of the Tiona Refining Co., will review the work of the association during the period he has been its president. He will suggest future activities.

The code of trade practices will be brought up for discussion by E. S. Hall of the Standard Oil Co. of New Jersey, a member of the national committee on interpretation of the code. A general discussion will follow Mr. Hall's address.

Current economic conditions of the industry with an estimate of the future will be presented by Joseph I. Pogue, economist. The name of the speaker on the California situation has not been announced.

W. T. Holliday, president of the Standard Oil Co. of Ohio, is to speak on a subject yet to be announced. L. M. Fanning of the American Petroleum Institute will speak of the public relations work of that body.

Safety and insurance department activities of the association will be covered by addresses by R. A. Wotowitch, trustee in charge of the department; James H. Herbert, president of the fire and safety marshals; Houston Dunn, secretary and treasurer of the National Petroleum Mutual Fire Insurance Co.; and J. J. Forbes of the U. S. Bureau of Mines.

Refinery operating practices will be discussed at one meeting and H. A. Ross will report on results of the cooperative engineering campaign. A traffic report will be made by Willis Crane.

The Interstate Commerce Commission will hold a hearing on regulations for the transportation of dangerous articles at the same hotel beginning Sept. 16. On Sept. 15 the Bureau of Explosives will hold a conference with representatives of the industry.

The annual dinner will be held Sept. 19. There will be no speeches, the officers promise. Instead the members will attend a theater party.

Pumper Fatally Burned

TULSA, Aug. 31.—Orville Byers, pumper for the Mid-Continent Petroleum Corp., was fatally burned the night of Aug. 25 when a tank exploded at the refinery in West Tulsa.

Most Large Companies Sign Code of Ethics

CLEVELAND, Sept. 3.—Most of the large oil companies have agreed to the code of marketing practices for our industry, it was said today at the headquarters of the American Petroleum Institute in New York.

The institute issued no bulletin in connection with the going into effect of the code Aug. 31 and state committees are still working on interpretations and other matters that pertain to putting the code in force.

It is expected that the small intrastate distributors of petroleum products will act through their state committees in abiding by the code, or will send their cards signifying adoption of the code direct to the Federal Trade Commission in Washington.

The institute expects to issue a list of signatory companies as soon as it can be compiled.

McCook, Ill., Refinery Leased by R. A. Fouts

CHICAGO, Aug. 31.—R. A. Fouts and associates have leased the old Inter-Ocean refinery at McCook, Ill. Work of reconditioning the plant will start immediately and actual refining operations will commence around Oct. 1. The refining capacity will be approximately 5000 barrels a day. Lubricating oil, gasoline, kerosene and fuel oils will be the products made.

Mr. Fouts, who will head the new organization, known as the Fort Dearborn Refining Co., has been in the refining business for over 20 years. He was recently president and general manager of the Deepwater Oil Refineries, Houston.

Shell Petroleum Buys Western Oil Refining Co. Stations

CLEVELAND, Sept. 3

SHELL PETROLEUM CORP. has purchased the Western Oil Refining Co. of Indianapolis, one of the largest Independent jobbing companies in the country. The Shell company is taking over the Western offices at Indianapolis to use as division offices for the states of Indiana and Ohio.

The Western Oil Refining Co. was organized at Indianapolis in 1910 by J. H. Trimble. The original working force consisted of three. At the time of the sale the company operated 45 branch bulk stations in addition to the main plant and warehouses at Indianapolis and 213 filling stations in Indiana and Ohio. The company had 56 filling stations in Indianapolis alone. Company sales are said to be about 45,000,000 gallons per year.

The first filling station in Indiana was built by the company at Fall Creek and North Meridian St., Indianapolis. The first crank case stations in the state for motor car lubrication also were built by the Western.

Officers and sole owners of the Western were J. H. Trimble, president and principal owner; Lucius French, secretary; W. H. Trimble, treasurer; and R. E. Trimble. J. H. Trimble is to retire from the company as a result of the sale but all others are to remain with the Shell. Mr. Trimble is on a motor trip in Scotland but will return to Indianapolis about Sept. 12.

Most of the Western stations are on land owned by the company. As a result the transaction involved the payment of several million dollars, being the largest in the history of Indianapolis with one exception.

Properties of the Trimble Realty Co. were not included in the transaction. The realty company owns a large number of buildings and real estate adjoining Western stations.

In the 19 years that the company has been in operation it has expanded steadily, adding new land and stations as its business increased. With the growth of Indianapolis and other cities where the company has done business the real estate holdings have increased rapidly in value.

In the past six years the Western has bought most of its gasoline from the Shell interests.

When the company first went into business it specialized in the sale of kerosene to the farming trade in Indiana and four adjoining states. Gasoline was only a side line. As the motor car developed Mr. Trimble was one of the first to develop the idea of building drive-in filling stations at convenient locations.

Petroleum Congress and Scientific Exhibits to Feature Oil Show

TULSA, Aug. 31

PREPARATIONS are being made for greater emphasis to be placed on the Congress of the International Petroleum Exposition in Tulsa Oct. 5 to 12 than in past years, according to William B. Way, general manager.

Although they have announced that they intend to purchase millions of dollars worth of equipment during their visit at the exposition, five Russians, three Roumanians, three Venezuelans, and two Mexicans have stressed the point that they are as much interested in learning from the rest of the world and in placing their problems before the world, as they are in obtaining materials.

Exhibits are enroute from France, Canada, Mexico, Germany, Russia, Venezuela and Roumania. The viewpoints of large foreign corporations will be presented by executives from England, Canada, Mexico, Russia, Persia, Burmah, Trinidad and Colombia. Italian officials have announced that they are preparing an exhibit.

Of great interest to foreign operators, letters to the exposition offices indicate, are the scheduled meetings of the American Petroleum Institute, the American Institute of Mining and Metallurgical Engineers, the meetings of the American Association of Petroleum Geologists, the safety section of the Mid-Continent Oil and Gas association, and the organization meeting of the Independent Petroleum Association of America.

To carry out more adequately the exposition's policy of making the annual gathering a composite university-institute-clinic, a large auditorium building has been constructed on the grounds this year. In this structure, acoustically correct and unmarred by pillars, every complaint may find a voice and every revelation, attentive ears.

Motion pictures of educational interest will be shown between lectures.

Foreign oil men and officials who have given definite advice that they will attend are:

Nicaragua, J. D. Mayorga, acting general counsel; Mexico, Ricardo T. Jordan, director of the national petroleum council, C. W. Wood and John Gayner, Anglo-Mexican Petroleum Corp.; Venezuela, Dr. Luis Calvani, minister of industry and technical inspector of mines, and L. Coll Pacheo, railroad official.

Russia, M. V. Barinov, president of the Azneft, Baku Oil Trust; Nicholas Andronov, president of the Amtorg Trading Co.; F. Roustambekov, chief technician and production engineer of the Azneft; S. Khanbekov, engineer for the Grozneft Oil Co., and A. G. Fishon, New York City representative of the Amtorg Trading Co.

Roumania, Victor de Metz, Jean de Montlebert and M. Drogulanescu, all of the Steaua Romana Oil Co.; Uraguay, J. Varela or representative; Poland, Jozef Szypniewski.

Because of recent unusual activity in the Turner Valley field in Alberta, where many engineers from the Mid-Continent and other fields have been drawn, the Canadian geological and petroleum display prepared for the exposition by Charles Camsell, deputy minister of mines in Canada, should prove of more than passing interest.

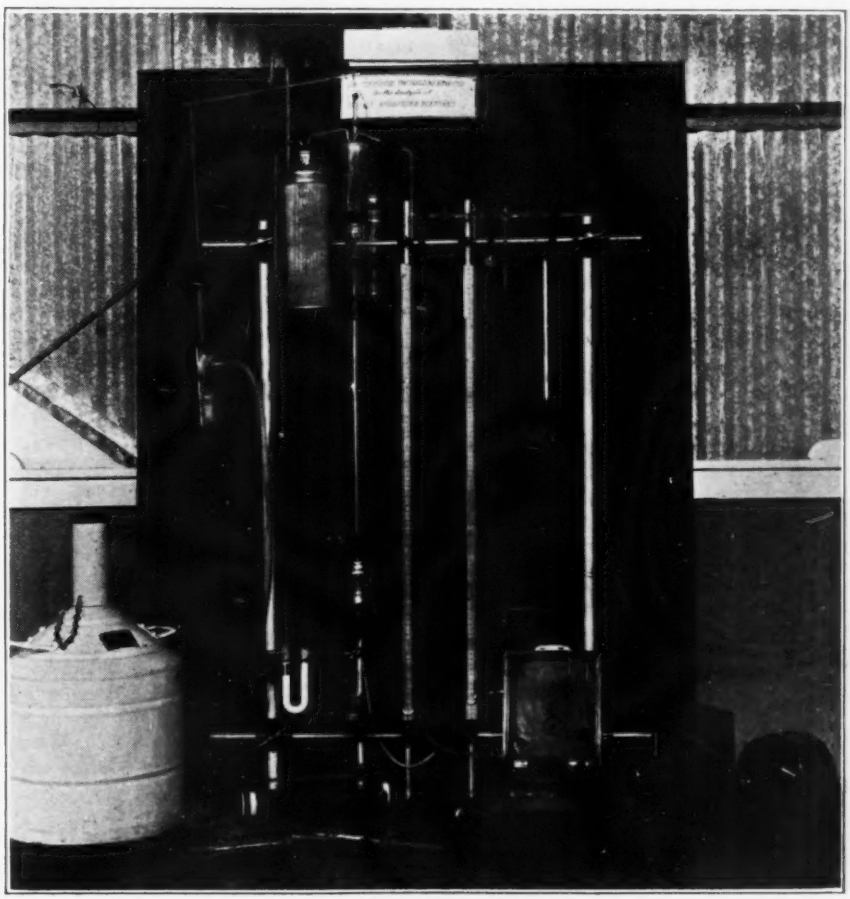
The comprehensiveness of the scientific and technical exhibition exposition, permits scientific study to be made in all features of exploration, production, piping, storage, refining, natural gasoline manufacture, cracking, liquid and gaseous hydrocarbon mixture analysis, testing and distribution, according to C. V. Millikan, chairman of the exposition scientific and technical committee.

A complete refinery will be displayed by the Standard Oil Co. of Ohio.

W. A. Schlueter, author of important books and tables on testing and petroleum and gas analysis, who is a member of the scientific and technical committee, has set up a low temperature fractionation apparatus of improved construction.

This apparatus is completely equipped for the analysis of a wide range of gaseous and liquid hydrocarbon mixtures. The analysis of motor fuel, natural gasoline; determination of the gasoline content of oils used in absorption gasoline plants and the isolation of small quantities of pure compounds, are a few of the uses this apparatus has been put to.

The Pyrex fractionating column has a vacuum jacket for thermal insulation and is equipped with a special



Low temperature fractionating apparatus for the analysis of volatile hydrocarbon mixtures to be displayed in the Scientific and Technical building

design of coil packing which gives the efficiency of fractionation equivalent to a column of ordinary design many feet high. Other features are a triple junction thermocouple, calibrated for measuring the temperature of the vapors leaving the top of the column; two distilling bulbs, one for analysis of motor fuels and similar products, and another for more volatile liquid mixtures; Pyrex stop cock manifold; manometers and an agitator. A well known inventor of oil field equipment expects to be able to display a revolutionary type of pumping apparatus.

Two new testing machines, one for lubricants and which carries the sample rapidly through extreme operating conditions, hot and cold, cloud and pour tests, and the other for motor fuels in which determinations are made through study of the spectra, will be among the operating displays.

Two types of crooked hole detectors will be shown. One of these indicates by means of a dial needle the degree of variation from the perpendicular as it drops into the hole. The other is equipped with two pens, one red and one blue, which charts its course on graph paper.

To the geophysical instruments' display, now composed of the torsion balance, the magnetometer and seismograph, may be added the recently invented gravitometer.

From the standpoint of utilization, the display of the United States Bureau of Mines on products of natural gas will be interesting. These products are derived not only from such components as methane and its chlorination, but also through the cracking of the carbon black and hence into the field of coal tar hydrocarbons.

Ohio Standard Drops Dual Control Of One-Stop Service Station

By E. L. Barringer
N. P. N. STAFF WRITER

CLEVELAND, Aug. 31

THAT one industry should have complete charge of all departments in a one-stop station has been the experience of the Standard Oil Co. of Ohio.

The experience has been put to practical use. Tire and battery departments at the one-stop station on Carnegie ave. at E. 89th st., Cleveland, were removed recently. This space will house two more lifts—giving the station a total of seven—and a combined waiting and specialty oil sales room.

Only products manufactured by the company and radiator anti-freeze solutions are sold there now. Two other one-stop stations in greater Cleveland have been operated on the one company basis. These stations are retail outlets for the refinery division only.

The Carnegie ave. station fronts a six-lane auto highway to Cleveland's east side and suburban residential sections. Greasing, motor oil and gasoline departments were operated by Standard of Ohio. Space for tire and battery departments originally was leased to a tire manufacturer.

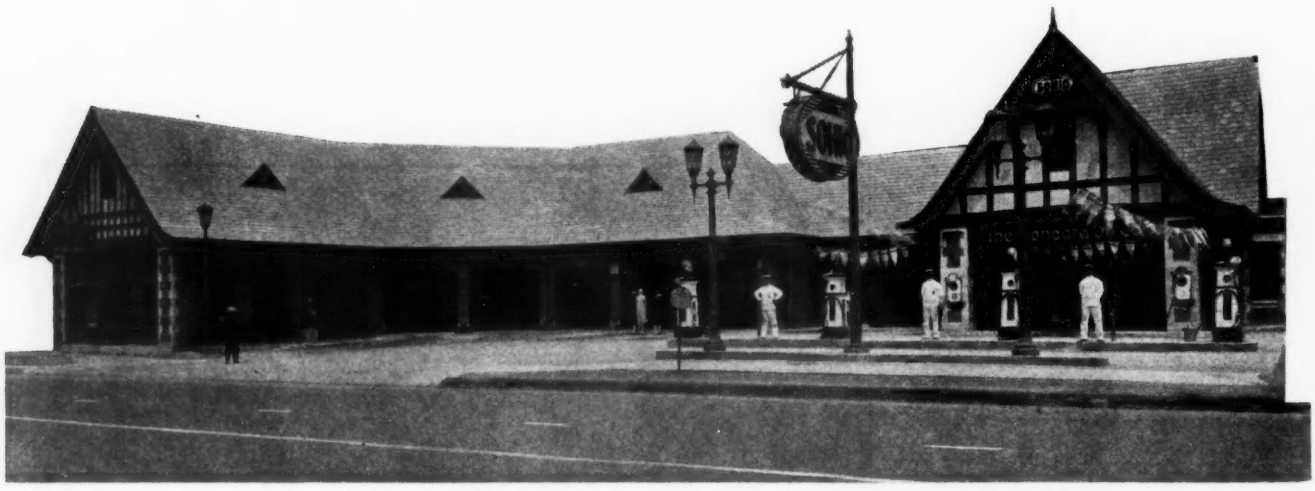
Lack of contact with customers where more than one industry is in a one-stop station caused the removal of the tire and battery departments, said G. G. McIntyre, manager of service station sales of Standard of Ohio.

Selling of petroleum products was the major factor in this station. The tire and battery department contacts came only through motorists driving in for these products or from customers at the oil outlets asking for these services.

To obtain close customer contact on tires or other allied automobile needs that industry would have to be in complete charge of all departments, so experience has taught at this station. Petroleum products in such a case would be used to attract motorists to the lot.

Traffic congestion from tire customers might be a factor in one-stop stations it was pointed out, although it did not interfere at this station. Speed is the keynote of the Carnegie ave. station—service the car and get it on the road. There is no room for parking. Speed is not such a factor with the customer buying only a tire while it is with the motorist getting his car serviced.

The new lifts are expected to pay out, Mr. McIntyre said, and make up the revenue derived formerly from the lease. Specialty oils will be displayed in the customers' waiting room. There will be no high-pressure salesmanship exerted to move the specialties.



General view of one-stop station of Standard Oil Co. of Ohio at Carnegie ave. and E. 89th st., Cleveland

More Oil Companies Report Gains In Earnings First Half Year

CLEVELAND, Aug. 31

HALF yearly statements of oil companies issued the last two weeks show improvement in earnings over earnings the first half of 1928, just as reports issued in the forepart of August showed gains.

Recent outstanding figures for the half year were those of the Sinclair Consolidated Oil Corp., Atlantic Refining Co., Continental Oil Co. of Delaware (the old Continental and Marland Oil Co. consolidated), Independent Oil & Gas Co. and Shell Union Oil Corp.

Sinclair earnings before deduction of federal income taxes rose $7,000,000 to $16,449,250. Atlantic and Shell Union earnings increased more than 50 per cent. Continental's profits before income taxes exceeded $2,200,000 as compared with a loss of $1,787,526 in the first half of last year. Independent's net this year was approximately twelve times what it was last year.

In the second quarter improvement was shown by most of the companies that issued reports covering the three months. Shell Union in the quarter reported a gain in net profits of about 75 per cent.

Lion Oil Refining Co. has just reported earnings of $712,750 for the first seven months of 1929 as compared with $63,779 for the corresponding time last year. These sums are after depreciation and depletion reserves but before deduction of federal income taxes. Barnsdall Corp. reported net earnings of $4,807,477 for seven months this year.

J. W. Van Dyke, chairman of Atlantic, credits improved export prices for the gain in his company's earnings. In a pamphlet report to stockholders he said:

"The business experience of your company for the half year was very satisfactory. The volume of products sold was somewhat larger than for the first six months of 1928, and the earnings were about 55 per cent greater.

"While, naturally, in an integrated business of this kind there are generally many contributing causes to aggregate results, the outstanding explanation of the improved earnings for the period under review was the higher market level for export petroleum products. During the first six months of 1928 such markets were depressed to the lowest level of recent years. Through that year they reacted moderately and in so doing entered 1929 substantially above January, 1928, but only slightly above June, 1928. The relative earnings of your company for the corresponding quarterly periods of the two years are, in part, a reflection of these market conditions."

Mr. Van Dyke reported that the recent adjustment in the capital structure of Atlantic, in which the preferred stock was retired, gave the common stock an equity $23,306,000 larger than it previously had had.

In a pamphlet report, James A. Talbot, chairman, and C. M. Fuller, president, of Richfield Oil Co., which earlier in August reported net earnings of $4,246,397 in the first half of this year as compared with $3,110,684 in the first half of 1928, said the following concerning Richfield's recent operations:

"During the second quarter the combined production of crude oil and casinghead gasoline was 3,790,000 barrels (including Pan American western), as compared with 3,149,000 barrels for the first quarter of the year, excluding Pan American. There are at present 18 new wells and five deepening jobs in progress, and the company has approximately 7,500 barrels per day of production shut in.

"Sales for the second quarter amounted to $21,160,982.76, as compared with $18,836,031.06 (including Pan American) for the first quarter of 1929. 129,007,137 gallons of gasoline were sold during the second quarter, as compared with 98,592,000 gallons for the first quarter of 1929.

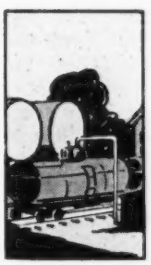
"The recently formed Richfield Oil Corp. of New York, a wholly owned subsidiary, has taken over several large distributing companies, having branches and distribution in 139 cities throughout the states of New York, New Hampshire, Vermont, Maine, Pennsylvania, New Jersey, Massachusetts, Connecticut and Maryland. The new company has marine terminals, with an aggregate of 1,100,000 barrels storage capacity, located at Providence, Greenpoint (Long Island), Bayonne, Baltimore and Schenectady. The earnings of this company, which have not been included in this report, and which have been increasing at a gratifying rate, are now on a basis of about $1,000,000 per annum."

G. A. Dye, vice-president of H. F. Wilcox Oil & Gas Co., wrote stockholders a letter in which he said:

"We wish to call your attention to the substantial increases in both gross and net revenues, the net being about two and one-half times that for the first quarter. For the month of June alone the net income was equivalent to $2 per share per year on our outstanding stock.

"A large portion of the increase is due to our refining and marketing divisions. Our new and up-to-date refinery was put in operation the early part of June and has averaged a throughput of approximately 2000 barrels a day. The quality of our refined products is exceptionally good. Our navy and anti-knock gasolines are being complimented by a great many of our customers, and are rapidly increasing in demand. In fact, during the month of July our sales through our own bulk and service stations were about 500,000 gallons of gasoline as compared to 432,000 gallons in June.

"We are pleased with the rapidity with which we are building up our marketing facilities. We have pending the possible acquisition of eight additional service stations that dispense 120,000 gallons of gasoline and 10,000 gallons of motor oil per month.



"We have brought in some very good producing wells, two of them on our large block of leases in Gray County, Texas, which came in making 200 barrels each per day; and two on our Smith lease in Section 8-8-5, Seminole area of Oklahoma, one of them came in with an initial production of 1500 barrels and the other 300 barrels. We now have three wells drilling on this last mentioned lease, two of which should encounter the pay sand within the next ten days and inasmuch as there are large producing wells offsetting them, they likewise should prove to be good producers."

Summaries of recent income reports follow:

Six Months	1929	1928
Atlantic Refining Co.	$8,862,409	$5,689,987
Continental Oil Co.	*2,200,526	*†1,787,526
Independent Oil & Gas	3,635,055	306,881
Mexican Seaboard Oil	14,489	†527,377
Panhandle Prod. & Rfg. Co.	99,457	†64,155
Shell Union Oil Corp.	9,509,659	6,043,236
Sinclair Consolidated Oil	*16,449,250	*9,452,955
South Penn Oil Co.	2,842,707	.....
Union Tank Car Co.	1,584,445	1,036,517
H. F. Wilcox Oil & Gas	222,784	.....

Second Quarter	1929	1928
Atlantic Refining Co.	$4,969,809	$4,332,630
Continental Oil Co.	*3,842,081	*654,004
Independent Oil & Gas Co.	1,616,205	112,517
Mexican Seaboard Oil Co.	†11,456	100,123
Panhandle Prod. & Rfg. Co.	66,537	†51,623
Shell Union Oil Corp.	8,051,082	4,492,069
H. F. Wilcox Oil & Gas	155,175	.....

*Before federal income taxes. †Loss.

Review of Late Production News

CRUDE oil production in the U. S. increased 7100 barrels daily average to 2,973,450 barrels per day in the week ended Aug. 31 according to estimates of the American Petroleum Institute.

East of the Rocky Mountains production increased 20,100 barrels daily average to 2,098,550 barrels. California production fell 13,000 barrels daily average to 874,900 barrels.

Imports were up 93,999 barrels daily average bringing total new supply of crude to 3,253,306 barrels per day, an increase of 101,099 barrels.

Oklahoma City production jumped 11,050 barrels daily average. Gray County, Texas, increased 3100 barrels and Pecos, West Texas, 3400 barrels. In California Santa Fe Springs was off 9000 barrels, Seal Beach 2000 barrels and Ventura Avenue 1000 barrels.

Oklahoma-Kansas

OKLAHOMA CITY field set a new peak production on August 29 of 54,442 barrels from 13 wells.

Drilling deeper, the Sinclair Oil & Gas Co. No. 1 Stamper, southeast of the discovery well of the pool, and one of the early lime wells completed in the field, ran into another pay streak in the lime. Production mounted to 400 barrels an hour for a time, although it fell off rapidly to some 7000 barrels per day. No increase in water came with the oil.

On the east edge of the pool the Shell Petroleum Corp. No. 1 Petty, apparently drilled itself in still farther. Production climbed steadily from its initial of 200 barrels hourly to more than twice that figure. Wirt Franklin Petroleum Corp. extended the field a mile and a quarter north.

Skelly Oil Co. No. 1 Decker, 16-7-4, in the link area between St. Louis and Pearson Switch, was drilled through the Hunton lime, in which it was dry, and into the Simpson. In the latter formation it had an initial production of 1300 barrels per day. There is other Simpson production near the new well.

s, New Mexico, Louisiana

A TEST of A. A. Fair and others, in 1-12-12, De Soto Parish, Louisiana, found gas and a show of oil in the Trinity formation at 2569 feet after passing out of the Brownstown marl and missing the Woodbine,

Current production in this country by pools is found on page 105.

Washita and Fredericksburg formations. This condition establishes a structurally high position of the Trinity comparable only with the Bellevue area of Bossier parish and causes operators to look favorably on the De Soto territory as the best prospect for Lower Cretaceous production in either North Louisiana or South Arkansas.

In Miller county, southwest Arkansas, the first percentage consolidation of wildcat acreage for joint testing has been made by C. B. Lenz on a 12,000-acre block. A 3500-foot well will be drilled in 13-15-26. Arkansas Natural Gas Co., Standard Oil Co. of Louisiana and Louisiana Oil Refining Corp. own interests in the percentage plan test and block.

A 4500-foot percentage plan test is to be drilled by Humble Oil & Refining Co., in sec. 35, township 2, Texas & Pacific block 55, Loving county, West Texas upwards of eight miles northwest of the wheat oil field developed by Rio Grande Oil Co., Independent Oil & Gas Co., Sun Oil Co., Associated Oil Co., Shell Petroleum Corp., the California Co., and the Humble consolidated nine sections for the percentage plan test.

In southeastern New Mexico, the No. 1 Wells test of Continental (Marland) Oil Co., and the California Co., 11-25S-36E, sprayed 95 barrels in 11 hours, accompanied by 3,000,000 cubic feet of gas, after a nitroglycerin shot of 50 quarts.

The Rowan & Tong discovery well, in sec. 46, block 12, north of Taylor-Link development on University land, in Pecos county, Texas, flowed 340 barrels in two hours and 40 minutes at its best. Total depth is 1605 feet.

California

CALIFORNIA daily average production for week ending August 31 was estimated to be 875,400 barrels, a decrease of 13,500 barrels over the output for the previous week.

Few completions in the O'Connell and Clarke sands at Santa Fe Springs together with the natural decline in production from recently completed wells in this field and other California fields accounted for the drop in the state's petroleum yield.

The situation at Kettleman Hills is reaching a critical stage as a number of wells approach the producing horizon. Continental Oil Co. completed its well No. 12-8, at a depth of 6875 feet for an estimated production of between 3000 and 3500 barrels of high gravity oil per day. Several other wells are due for production tests within the coming week.

New developments are expected at several points along the coastal strip above Ventura Avenue within the coming week. California Ventura Oil Co.'s well No. 20 in the La Crosse field north of Ventura Avenue, is drilling at 3853 feet in hard shale. Heavy gas pressure encountered below 3818 feet has necessitated careful drilling to avoid a blow out.

Wyoming, Montana

MIDWEST Refining company will drill another well for gas on the Bowes structure, northern Montana. Montana Corporation will drill two interesting wildcats immediately —one on Crooked Creek structure for gas, and one on Jordan structure to 4000 or 5000 feet for oil.

Kinney Coastal Oil company will shoot its deep test on Pilot Butte structure, Fremont county, and if commercial production is not developed will continue to deepen it as originally intended.

Another well will be drilled in the new Alkali Butte field, recently discovered by Texas Production company, by newly organized Cheno Oil company. Billy Creek well of the Carter Oil Co. is good for 100 barrels per day.

Various Methods Used for Taking Temperatures of Gasoline

CLEVELAND, Sept. 3

METHODS used by refining and marketing companies for taking the temperature of gasoline in tank cars for the purpose of figuring outages are almost as numerous as the companies themselves.

A canvass made by NATIONAL PETROLEUM NEWS of a score or more of large and small refining and marketing companies shows a very wide variation in methods of taking temperature. There is no uniform method in existence and a committee of the American Petroleum Institute is now working to formulate such a method.

Where refiners ship all or most of their products to their own bulk stations, the problem is relatively simple. In such cases, the company simply gives the same instructions to both the loaders at the refinery end and the unloaders at the bulk station for taking temperature and calculating outage. In such a case, it does not matter much whether the method used is accurate or not so long as the same method is used at both ends.

However, when the shipment moves from a refinery to a bulk station owned and operated by outside interests, the possibilities of costly mistakes from using different methods of gaging, temperature determination and outage calculation are greatly multiplied.

It appears that the methods for actually figuring outage are somewhat more nearly uniform than the methods of taking temperature on which of course, correct calculation of the outage depends. Most companies who answered our questionnaire use the coefficients of expansion given in the abridged tables of the Bureau of Standards, which were adopted by the American Petroleum Institute in 1924.

For taking the temperature, three methods seem to predominate.

These are given below exactly as sent out by different companies to car unloaders:

1—Take the temperature with an accredited thermometer 12 inches below the top, in the middle, and 12 inches above the bottom. Figure the net gallons by adding the top temperature to the bottom temperature plus 8 times the middle temperature and dividing by 10 to get the average temperature.

2—The temperature should be taken as nearly as possible at the middle of the vertical height of the material in the car.

3—Take temperature near the top, in the middle and near the bottom of the car and average the three temperatures.

Some companies send out no written instructions on the subject.

Most companies use about the same type of thermometer, that is a tin case instrument with a bath around the bulb of sufficient size to maintain the temperature long enough to permit accurate readings.

Here are some of the actual instructions sent out by various companies. Their names are not used.

A large eastern refining and marketing company—

"At the refinery our procedure is to take the temperature at the center of the manhead at a level of one-third from the bottom of the car and therefore two-thirds from tht top of the car. We use a Type E, tin case, mercury filled thermometer graduated in degrees Fahrenheit from 30 to 140. * * * * We leave the thermometer in the liquid from 2 to 3 minutes and in cases where we wish to be very particular we repeat readings until the difference between two successive readings is less than one-half degree F. The thermometers are carefully calibrated to one-half degree in the laboratory and only thermometers meeting this specification are passed out to the gagers."

A large Oklahoma refiner and marketer—

"While you have the dome cover off, take the temperature of the liquid at the top, middle and bottom of the car and make a record of such temperatures. Then measure the outage or innage from the top level of the shell of the car to the top level of the liquid."

Another large western refiner and marketer—

"Our distributing department does not correct tank car shipments of gasoline to bulk stations for volume by temperature. We charge our bulk plants with the shell capacity of the tank car irrespective of temperature."

A far western company—

"The amount of oil at 60 F. is determined by multiplying the quantity at observed temperature by the multipliers for the particular degree F." (multipliers are those in A.P.I. Abridged Volume Correction Tables for Petroleum Oils.)

A large eastern refiner and marketer—

"Our bulk station agents have instructions to take the temperature by lowering a thermometer into the tank through the dome until it reaches the center, allowing the same to re-

A loading rack worker reading a thermometer which was suspended at the half way level in a recently loaded tank car of gasoline. The full pipe can be seen at the extreme left—N. P. N. staff photo

main there several minutes until the product registers."

A middle western refiner and marketer—

"Our people are instructed to drop the thermometer into the car about to the center of the product, permitting it to remain immersed for 3 minutes in order to give us a correct reading. We feel that it is just as accurate and takes considerably less time than taking temperatures top, middle and bottom and striking an average. The taking of three temperatures is quite apt to be a hurried operation resulting in incorrect temperatures. We would rather have one temperature properly taken."

A large refining and marketing company --

"Temperature of both tank car and storage tank should be taken before unloading with the company's standard thermometer at the bottom, center and top of oil and the thermometer should be allowed to remain at each position not less than 2 minutes. After unloading, temperature of storage tank should again be taken as above."

An eastern seaboard refining and marketing company—

"The temperature of the gasoline is taken at the top, the middle and the bottom of the car. These three temperatures together with the gallonage figures are then turned in to our accounting department, who make all volume corrections for temperature in accordance with the national standard petroleum oil tables, Circular No. 154 of the Bureau of Standards (abridged tables of the A.P.I. previously mentioned). No volume corrections for temperatures are made at our bulk plants before unloading."

A large marketing company—

"Take temperature of the contents of the tank car 3½ feet below the top level of the liquid in the car."

A large refining and marketing company with national distribution—

"The temperature of the contents of the car will be recorded. This temperature will be obtained by suspending an oil bath thermometer at a point approximately the center of the contents of the car."

Dennis W. McGraw, Pioneer Eastern Refiner, Dies

CLEVELAND, Sept. 3

DENNIS W. McGRAW, president and founder of the Oil Creek Refining Co. of Titusville, died at his home in that city on Aug. 28 at the age of 68. He had been in ill health for a year and a half. He was one of the veterans of the Pennsylvania refining industry.

Born in Corry, Pa., in 1861, Mr. McGraw entered the refining industry at the age of 17 when he went to work for Clark & Warren Refining Co. at Corry. He remained with that company for six years, and then entered the employ of William Muir at the Glade Oil Works, Warren, Pa. In the 14 years he remained at the Glade, Mr. McGraw became Mr. Muir's right hand man and in 1903, built the Pennsylvania Paraffin Works for Mr. Muir at Titusville.

In 1912 he also designed and superintended the building of the Bessemer Refining Co. adjacent to the paraffin works. He remained with these interests until about 1918 when the two companies were absorbed by the Crew-Levick Co. In 1919 he organized the Oil Creek Refining Co., as president which position he has held ever since. He designed and superintended the building of the company's plant.

Mr. McGraw was married on July 31, 1884 in Corry to Miss Mary Ann Hopkins who survives him. Eight children also survive. They are: Mrs. N. R. McIntyre of Erie, Pa., Mrs. Charles Birkenmeyer of Buffalo and six sons, Dennis W., Frank J., George P., Joseph, Emmett and James, all of whom live in Titusville.

Mr. McGraw was a member of St. Titus church of Titusville and a member of the Knights of Columbus.

The funeral was held from the above named church on Aug. 30. Interment was in St. Catherine's cemetery, Titusville.

Williams Elected V. P. Of Hancock Oil Co.

LOS ANGELES, Aug. 29.—George D. Williams, sales manager of the Hancock Oil Co. of Long Beach, was named vice president of that corporation at a recent meeting of the board of directors, succeeding J. Walker Hancock, one of the founders of the company, who died August 3rd.

Mr. Williams joined the Hancock Oil Co. during its first year of operation in 1923 and has been sales manager since 1925. He will continue in active charge of the company's sales organization, and also will have general supervision over the refinery, pipe line and marine terminal departments.

Mr. Williams has been a member of the Hancock directorate since 1926. He has had a wide range of experience in the oil industry and is well known throughout California petroleum circles. Prior to coming to California he was associated with the Cameron Refining Co., Ardmore, Okla.

Interest in Pecos Discovery Bought

(By Telegraph)

HOUSTON, Sept. 3.—The Independent Oil & Gas Co. of Tulsa, has purchased an operating half interest in the Rowan & Tong discovery well in Sec. 46 H & GN Block 12, Pecos county, together with approximately 500 acres of leaseholds. A one-half royalty interest in 320 acres was also involved. Exact terms of the deal were not announced, but consideration is said to have been $1,000,000, half cash and the remainder out of part of the oil proceeds.

Maximum production of the Towan & Tong discovery at the rate of 125 barrels an hour has indicated the well may represent a strike of major caliber approximately 18 miles west of the phenomenal Yates field. The well is five miles north of the Taylor-Link development on university land in Pecos county.

The second well of "Gusher" proportions in the Taylor-Link area is the Shell Petroleum Corp.'s C-1 University in Sec. 31, block 16, which started off at the rate of more than 200 barrels an hour. The oil was accompanied by 10,000,000 cubic feet of gas daily.

Annual Meet of Missouri Jobbers to be Oct. 15

CLEVELAND, Aug. 31.—The annual meeting of the Missouri Oil Men's Association will be held at Kansas City on Oct. 15 at the President hotel, according to an announcement by George S. Allee, president. It will be held in connection with the Big Four State Jobbers Meeting scheduled for Oct. 15, 16 and 17.

Presidents and secretaries of the jobbers associations of Nebraska, Kansas, Iowa and Missouri were scheduled to meet at Kansas City Aug. 31 to discuss arrangements for the four state meeting.

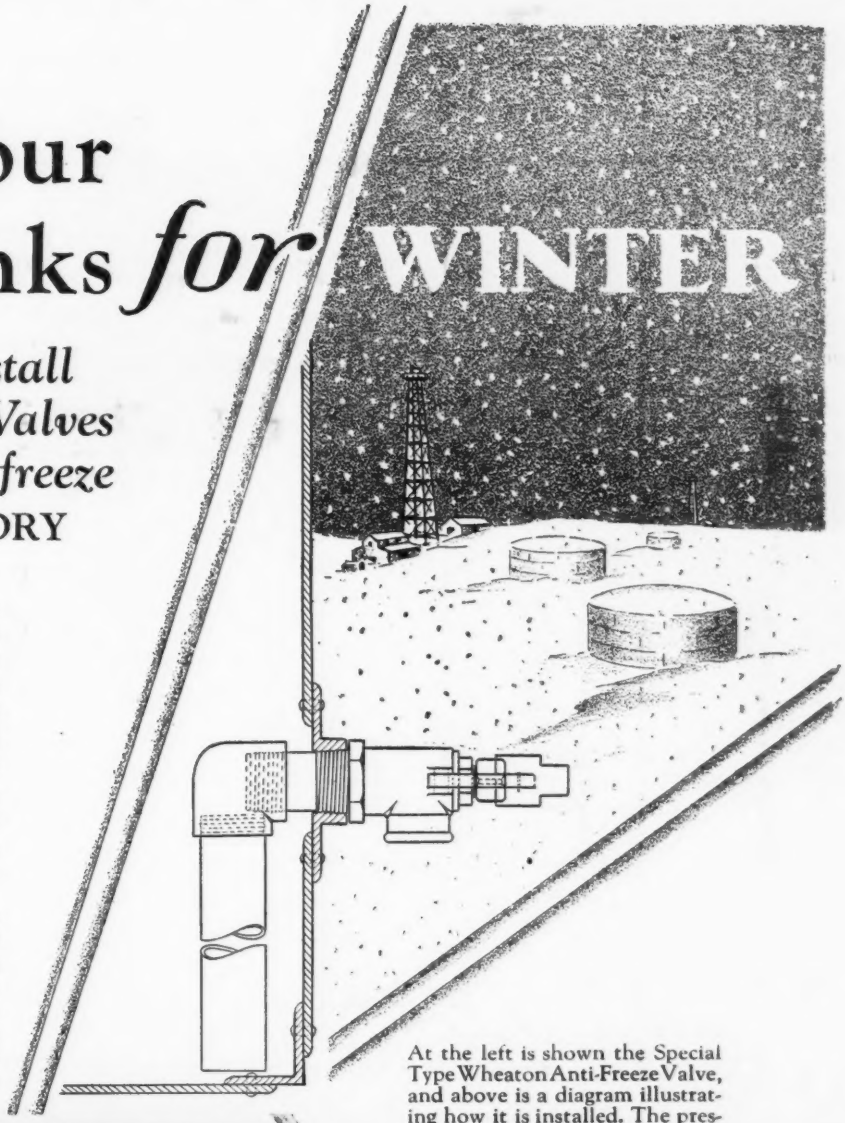
LOS ANGELES, August 29.—A. C. Rubel, chief petroleum engineer of the Union Oil Co. of California was recently appointed to the position of assistant manager of field operations with headquarters at Los Angeles.

Mr. Rubel succeeds R. M. Putman who in turn assumes the office left vacant by the resignation of F. C. Critchlow, formerly superintendent of the coast division.

Several years previous to his connection with Union Oil Mr. Rubel was engaged in exploration for oil in Mexico.

Prepare your Storage Tanks *for* WINTER

Now is the time to install Wheaton Anti-Freeze Valves —the valves that CAN'T *freeze because they* DRAIN DRY

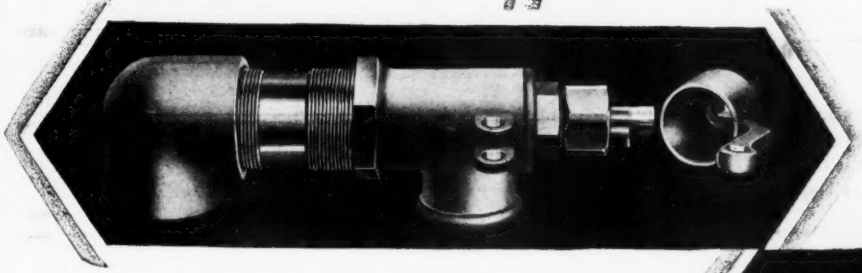


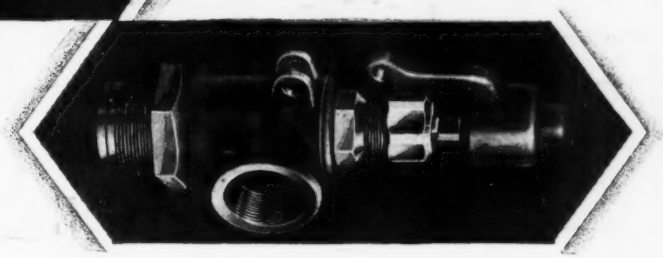
WITH Wheaton Anti-Freeze Valves, the valve seat is located *inside* the tank, while the valve body is located *outside* the tank. As a result, when the valve is closed, the water is *excluded* from the body, and the valve drains *dry*. Consequently, there is no danger of the valve freezing—and no danger of the valve breaking and causing leakage.

Many of the largest oil companies in the United States have installed Wheaton Anti-Freeze Valves. These companies have *removed all danger* of freezing, breakage and loss of product. Their tanks are prepared for winter. Are *yours?* If they are not, *now* is the time to equip your tanks with *Wheaton Anti-Freeze Valves.* Don't let winter find you unprepared. Send for a sample today, and give it your own test. If you are not entirely satisfied, you may return it for credit or refund.

A. W. WHEATON BRASS WORKS
Newark, New Jersey

At the left is shown the Special Type Wheaton Anti-Freeze Valve, and above is a diagram illustrating how it is installed. The pressure of the gasoline upon the water at the bottom of the tank forces the water up through the pipe and out through the valve. The Standard Type Wheaton Anti-Freeze Valve, shown below, is designed for installation through the bottom of the tank as well as through the wall.

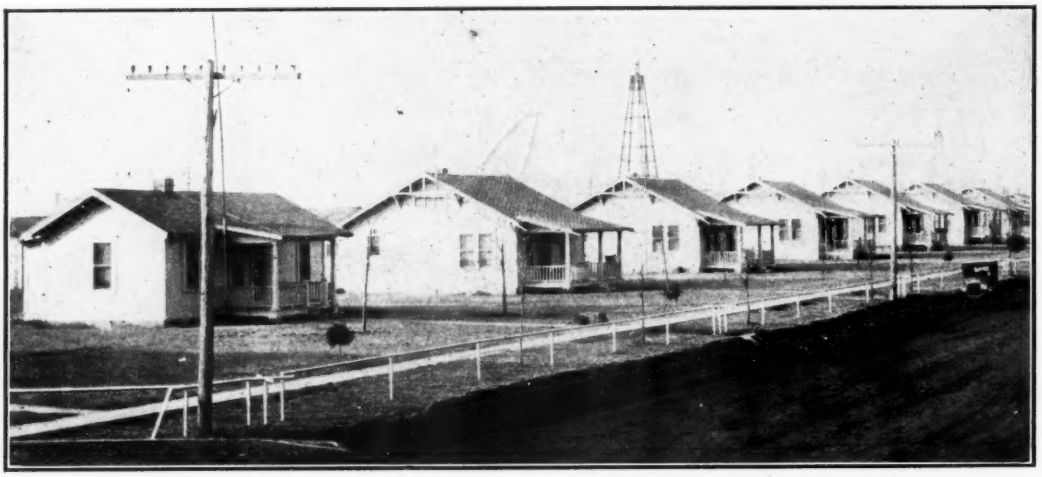




Empire Brass Mfg. Co., Ltd., London, Ontario, Canadian Manufacturers and Distributors

Wheaton

FAUCETS · VALVES · JOINTS · COUPLINGS · FILLERS · NOZZLES · FITTINGS



A *perfected utility paint for the petroleum industry*

Du Pont Petro Paint *stands up* under sulphur fumes and extremes of weather . . . White paint that *stays* white . . . colored paints that resist fading and darkening

NO longer is the economical maintenance of buildings and equipment a problem in the petroleum industry. Petro Paint has practically eliminated the difficulty of insuring long-lasting protection and good appearance of plant structures. Developed especially for the petroleum industry, Petro Paint is remarkably resistant to all destructive agents commonly found in the petroleum field.

In its formulation, du Pont laboratories have balanced every factor—pigments, inerts, vehicles and driers—to bring out the most desirable feature of each element. Pigments have been selected and blended to minimize cracking and mildewing—to eliminate undesirable chemical change. Inerts have been carefully chosen and incorporated to give greater durability. Special vehicles and driers have been perfected to insure proper working and drying qualities and to give long film life.

7 Advantageous Qualities of Petro Paint

Consider these characteristics of Petro Paint as applied to your own specific painting problems:

1. Petro Paint is highly resistant to sulphur fumes and aqueous vapors.
2. It is adapted for systems designed for all types of surfaces.
3. On tanks it curtails evaporation. It has the remarkable quality of retaining its original appearance and cleanliness for a long period of time without fading.
4. It has greater durability under any conditions.
5. It leaves a good surface for repainting.
6. It can be applied under adverse temperature conditions. It does not crawl on cold surfaces.
7. It hides better than other mixed paints — is very economical.

Petro Paint gives you an opportunity to use color effectively wherever you wish.

Send for Further Information

Full details of the Petro Paint line have been compiled in our Technical Bulletin No. 4. At your request, a copy will be mailed to you immediately. Or, if your problem requires special study, we will be glad to send a du Pont technical representative to work with you.

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PETRO PAINT

E. I. du Pont de Nemours & Co., Inc.
Petroleum Sales Dept. NP-9

Philadelphia Chicago San Francisco

June Daily Gasoline Demand Up 1,700,000 Gals.

NEW YORK, Aug. 30

AN INCREASE of 1,669,000 gallons in daily average gasoline consumption in June over May, or 6.3 per cent, is indicated in 40 states by reports made by wholesalers and dealers under the gasoline tax or inspection laws, according to the American Petroleum Institute.

Consumption in June totaled 840,557,000 gallons, compared with 736,175,000 gallons in June, 1928, an increase of 104,382,000 gallons, or 11.4 per cent.

Gasoline demand in these 40 states for the six months ended June this year totaled 4,142,743,000 gallons, compared with 3,694,233,000 gallons for the corresponding period of 1928, an increase of 448,510,000 gallons, or 12.1 per cent.

Here are the gasoline consumption figures for June, 1929, compared with other periods:

	Month of			% Change	6 Months Ending with		% Change
	May, 1929 Gallons	June, 1929 Gallons	June, 1928 Gallons	over June, 1928	June, 1929 Gallons	June, 1928 Gallons	over 1928
Alabama	16,150,000	20,483,000	16,459,000	+24.45	90,323,000	79,715,000	+13.31
Arizona	5,061,000	5,155,000	4,255,000	+21.15	30,047,000	23,597,000	+27.33
Arkansas	11,322,000	9,411,000	8,636,000	+8.97	57,434,000	52,013,000	+10.42
Colorado	11,907,000	13,039,000	12,924,000	+0.89	72,525,000	65,837,000	+10.16
Delaware	2,898,000	2,684,000	2,851,000	—5.86	14,036,000	12,112,000	+15.88
District of Columbia	6,493,000	6,456,000	5,676,000	+13.74	34,018,000	29,958,000	+13.55
Florida	18,554,000	18,530,000	18,249,000	+1.54	120,425,000	120,690,000	—0.22
Georgia	18,884,000	17,840,000	17,604,000	+1.34	101,456,000	96,604,000	+5.02
Idaho	4,982,000	5,241,000	4,870,000	+7.62	21,082,000	20,467,000	+3.00
Indiana	39,280,000	38,332,000	34,559,000	+10.92	199,982,000	175,506,000	+13.95
Iowa	31,644,000	30,042,000	27,120,000	+10.77	145,150,000	141,385,000	+2.66
Kansas	31,118,000	33,688,000	27,528,000	+22.38	157,473,000	137,358,000	+14.64
Kentucky	13,965,000	13,824,000	11,710,000	+18.05	67,883,000	58,566,000	+15.91
Louisiana	14,552,000	13,618,000	13,154,000	+3.53	80,053,000	78,441,000	+2.06
Michigan	70,094,000	78,700,000	66,575,000	+18.21	353,514,000	286,612,000	+23.34
Minnesota	34,960,000	31,937,000	31,707,000	+0.72	152,505,000	143,049,000	+6.61
Missouri	34,687,000	33,780,000	31,300,000	+7.92	173,991,000	165,097,000	+5.39
Nebraska	18,841,000	17,106,000	17,340,000	—1.35	100,800,000	93,526,000	+7.78
Nevada	1,315,000	1,985,000	1,480,000	+34.12	7,571,000	6,343,000	+19.36
New Hampshire	5,188,000	6,107,000	5,086,000	+20.07	21,955,000	17,963,000	+22.22
New Jersey	43,759,000	51,165,000	37,582,000	+36.14	224,941,000	190,304,000	+18.20
New Mexico	3,766,000	6,290,000	3,287,000	+91.36	22,317,000	16,591,000	+34.51
North Carolina	22,663,000	19,208,000	19,830,000	—3.14	121,875,000	113,742,000	+7.15
North Dakota	15,850,000	10,935,000	8,936,000	+22.37	57,050,000	47,156,000	+20.98
Ohio	86,035,000	87,156,000	75,597,000	+15.28	436,286,000	384,906,000	+13.35
Oklahoma	25,894,000	28,831,000	25,008,000	+15.29	144,402,000	127,387,000	+13.35
Oregon	13,867,000	15,258,000	13,598,000	+12.21	69,865,000	63,133,000	+10.66
Rhode Island	7,603,000	7,768,000	6,125,000	+26.82	36,125,000	29,271,000	+23.42
South Carolina	10,005,000	9,851,000	9,372,000	+5.11	55,061,000	51,521,000	+6.87
South Dakota	12,787,000	11,163,000	10,233,000	+9.09	56,065,000	49,725,000	+12.75
Tennessee	17,002,000	17,042,000	14,529,000	+17.30	86,250,000	76,287,000	+13.06
Texas	62,709,000	68,178,000	57,159,000	+19.28	354,884,000	309,472,000	+14.67
Utah	5,552,000	5,509,000	4,777,000	+15.32	24,897,000	22,209,000	+12.10
Vermont	3,954,000	4,738,000	4,021,000	+17.83	16,172,000	12,685,000	+27.49
Virginia	18,322,000	18,412,000	16,568,000	+11.13	92,122,000	82,129,000	+12.16
Washington	22,588,000	25,410,000	21,087,000	+20.50	115,259,000	102,631,000	+12.30
West Virginia	11,145,000	12,043,000	10,667,000	+12.90	52,855,000	47,391,000	+11.53
Wisconsin	38,163,000	39,961,000	35,488,000	+12.60	159,843,000	149,064,000	+7.23
Wyoming	3,293,000	3,681,000	3,228,000	+14.03	14,251,000	13,790,000	+3.34
Total	816,852,000	840,557,000	736,175,000	+14.18	4,142,743,000	3,694,233,000	+12.14
Daily Average	26,350,000	28,019,000	24,539,000	+14.18	22,888,000	20,298,000	+12.75
Increase over previous year:							
Amount of Increase	.....	104,382,000	.....	.....	448,510,000	.....	.....
Percentage Increase in Daily Avg.	.....	11.4%	.....	.....	11.3%	.....	.....
Massachusetts	46,947,000	47,704,000	.....	.....	.....	.....	.....

	Quarter Ended				6 Months Ending With		
	March 31, 1929	June 30, 1929	June 30, 1928		June 30, 1929	June 30, 1928	
California	287,770,000	307,518,000	285,431,000	+7.74	595,288,000	536,537,000	+10.95
Montana	8,695,000	23,732,000	20,882,000	+13.65	31,427,000	32,979,000	—4.70
Pennsylvania	174,086,000	228,469,000	198,879,000	+14.88	402,555,000	355,465,000	+13.25

Welding Contest Planned For Oil Exposition

TULSA, Aug. 30.—A pipe line welding contest open to industry employees will be held in connection with the sixth International Petroleum Exposition at Tulsa Oct. 5 to 12. Announcement of rules has been made by Don J. Wallace, chairman of the exposition's committee on safety and contests. The rules follow:

1. Size of pipe to be 6-inch standard, beveled to 45 degrees with Wagner cutting machine.

2. Type of weld to be ripple, butt and rolling.

3. Pipe will be tacked for four welds on each firing line before contest starts.

4. Pipe will be rolled to conform to the speed of the fastest welder making a good weld.

5. Welding tips must be standard, as furnished with equipment.

6. The following torches, hose and regulator will be furnished: Oxweld Presto weld, Airco D. B., Meco and Victor.

7. Standard size welding rods will be furnished.

8. Welder, on registration, will be furnished with a number which will be stamped on his weld when it is completed. The weld will then be cut out and turned over to the judges, who will determine the winners on the following basis: widths of weld (should be approximately ⅞), proper penetration, reinforcement (should be approximately 5/32), speed, general appearance of weld, and equipment handling.

9. In case of a tie coupons will be cut from welds and tested mechanically to determine the winner.

10. Prospective contestants must register by letter to R. L. Banister, chairman welding committee, International Petroleum Exposition, Tulsa, on or before October 1.

THERE are, Lord knows, plenty of traffic hazards that oil companies cannot touch and they should be quite willing to eliminate all those in their power. One of the things that makes us, along with a lot of other people, seethe is the disregard of common sense handling of trucks by many drivers. Specifically, there is the matter of tail lights.

Anyone who drives the oil field roads and main highways in oil country will testify as to the lack of these very essential safeguards. One will be driving along at a fair clip thinking he has a clear road when suddenly his lights will reveal a truck crawling along with not a sign of a tail light showing. Frequently only the quickest kind of work prevents a wreck.

Not long ago our scalp was jeopardized by several joints of drill pipe loaded in semi-crosswise fashion on a truck encountered in a narrow road. An oil man at Wichita drove into a mess of tubing loaded in similar fashion and his car was neatly disemboweled.

There is an association, the Petroleum Motor Transport Association, in Tulsa. It has effected several reforms and has done valuable work in cutting operating costs for the companies who are members. It might well do a bit of policing, not only of its own drivers, but of those employed by trucking contractors who haul for the companies. The latter class are the worst offenders.

* * *

The gracious offer of the federal government to return to the states the surface rights on public lands strikes us as being about as valuable as the offer of a free walking trip from Washington to New York. Everything that is worth having was homesteaded long ago. Little enthusiasm has been displayed thus far by any of the states over the opportunity of putting on their books a few hundred miles of sagebrush and greaswood.

* * *

Col. H. L. Wood, who started writing oil news many years ago, arrived in Tulsa last week and is in St. John's Hospital. His health failed several months ago and doctors advised him to try a higher altitude. It did not have the desired effect and he is back in the town with which he has been closely associated since its infancy. One noted on entering his room the familiar wide-brimmed Stetson and the portable typewriter, the latter red in color. Considering his years—he is near the four-score mark—and his long illness the colonel is resting as easily as could be expected. He likes to hear from his old friends and they should drop him a line.

* * *

John A. Wolfe, general superintendent of the Oklahoma district of the Prairie Oil & Gas Co., with his family has gone to his old home at Tionesta, Pa. They will visit also in other Pennsylvania and New York points. Reared in the oil fields of the Quaker state, Mr. Wolfe manages to get back now and then to look over the familiar landmarks.

H. C. Bretschneider, president of Midwest Exploration Co., Denver, has long been a member of the Midwest family. As portrayed here he is attired for golf and he has the game to go along with the uniform

* * *

Kenneth D. Pardee has been made district superintendent for The Texas Co., Montana producing division. Mr. Pardee recently left the Turkish Petroleum Co., with whom he had been associated for three years as field superintendent in Iraq, Mesopotamia.

* * *

M. B. Flesher, oil man of Tulsa, will be appointed supervisor of the 1930 census for the Tulsa, Creek and Osage county districts.

* * *

Invitations to several speakers for the annual meeting and dinner of the Kansas-Oklahoma division of the Mid-Continent Oil & Gas Association have been sent by Secretary Harry H. Smith. The meeting will be the evening of Oct. 9, during the International Petroleum Exposition. One of the speakers will be Harry H. Rogers, president of the Exchange National Bank of Tulsa, himself a pioneer Oklahoma oil man.

A tentative acceptance of invitation has been received from Trade Commissioner Fox, of the federal bureau of foreign and domestic commerce, whose station is London. He was asked to discuss foreign trade conditions.

James A. Emery, of Washington, general counsel of the National Industries Council and Washington counsel of the National Manufacturing Association, has been asked to speak on the relation of government to business.

* * *

R. E. Young, who of course is known as Brigham, has joined the Reading Iron Co. as sales representative covering Kansas, Oklahoma and north central and western Texas, it is announced by N. R. Putnam, district sales representative. Mr. Young spent eight or nine years in the oil country service, starting with Cosden & Co. in 1914 as a scout. For five years he has been in oil storage and tank business.

J. A. McNeese, who did valuation and depletion work for the old Marland Oil Co. for several years, has been made chief of the tax division of the Continental Oil Co., Ponca City headquarters. In this work he functions under J. J. Cosgrove, general counsel. Another appointment announced is that of L. J. Morgan as secretary of the manufacturing and sales committee of the company.

* * *

Fred Phillips, president of the Reserve Petroleum Co. (formerly Gilliland Oil Co.) is spending a vacation period in New Mexico.

Charles L. Shirley, production engineer for the Shell Petroleum Corp., Tulsa offices, is a specialist on performances of equipment used in drilling and producing. No bit of data is too trivial to find room in his files, for it comes in handy some time

Ellick Botts, popular ex-pumper in the Gray Horse district, says he has reached the point farthest south in nonentity. The only person who remembered his birthday was an insurance agent.

* * *

F. A. Pielsticker, vice-president of the Skelly Oil Co. in charge of refining, is confined to his home in El Dorado, Kans. He suffered an attack of appendicitis last week and it was first thought an operation would be required. The medicos now believe they can safely allow him to retain the offending feature.

The set-up seems to be about complete to make Oklahoma City's pool a real one. A row has broken out between the city council and the former owner of Trosper Park as to ownership of the mineral rights thereunder.

* * *

We learned with sorrow a few days ago of the death of Maj. D. P. Wardwell in Casper early in August. "Dink," as he was known, crashed in an airplane belonging to the Wyoming Airways, of which he was president and manager. He was giving two out-of-town visitors a ride over Casper. The ship took fire and all three died.

Originally a resident of Logan, O., Maj. Wardwell was educated in engineering at Ohio State. He was widely known in the Mid-Continent and Rocky Mountain sections of the oil industry through his service with companies and with the federal government. He first went to work in oil with the Empire, at Oil Hill, Kans., where he specialized on water problems under the direction of Reed Bush, now state oil and gas supervisor of California.

He left the Empire to go with the Bureau of Mines and devoted more than two years to study of the water problems in the Drumwright, Okla., district. He was transferred from that field to Casper and became part of the United States Geological Survey's personnel when that branch took over enforcement of regulations on public lands. While with the government he organized the aviation company and resigned from government service more than a year ago to give full time to flying.

He served in the A. E. F. and received official credit for bringing down several enemy planes. Now he has joined that small army of young enthusiasts who cheerfully risked all they had to establish flying as a going, commercial venture.

Maj. Wardwell was buried in Logan, O. He is survived by his widow and four small children.

* * *

Died: In Delaware, O., Aug. 29, George O. Pohler, 48 years old. He was purchasing agent for the Mid-Continent Petroleum Corp., having been in the service of that company and its predecessor, Cosden & Co., since 1917. He was one time president of the Tulsa Purchasing Agents Association. Mrs. Pohler and one son survive. Burial was in Tulsa.

* * *

Cliff Hearn, of the Gypsy Oil Co.'s scouting department, Tulsa, is in the Mayo hospital at Rochester, Minn., undergoing treatment. Reports are that he is recovering the excellent health he possessed up to a few months ago.

Robert N. Burnett

To Head Oil Industry Sales of Vulrox

HOUSTON, Aug. 29.—Robert N. Burnett, formerly research mechanical engineer of Humble Oil & Refining Co., and more recently engaged in the development of extensive kaolin deposits on his farm in western Kentucky, announces his return to the petroleum industry representing The Vulrox Co., of St. Louis.

Mr. Burnett will have charge of the petroleum industry division of The Vulrox Co., which manufactures and markets in liquid, semi-solid and sheet form a product calculated to resist all forms of corrosion and deterioration to metals used in industry. He will make his personal headquarters at Tulsa. Representatives will be placed in the various other important oil centers.

Vulrox, according to Mr. Burnett, is a new product developed from petroleum and kaolin clay under a patented process. Sheet material, he says, will be sold in pipeline work and the liquid marketed for use on surface equipment.

It will be the object of his organization, Mr. Burnett says, not only to market Vulrox but to maintain a research staff constantly at work on corrosion problems.

Settle your Pipe Problems now!

For ordinary replacements, extension of present equipment, or building an entirely new unit—refinery superintendents can settle once for all time the question of the right pipe to use. No matter how varied the pipe requirements in the plant, there is a NATIONAL Pipe for the purpose. And you take no chance with quality when you specify this material, because the same quality is built into every type of NATIONAL Pipe—regardless of its size or purpose. With over half a century of manufacturing experience behind it and specified by America's leading refinery builders, this is the logical pipe on which to standardize for all refinery purposes. Available in all sizes, for any pressures, for any type of joint and for all kinds of bending and forming operations.

NATIONAL TUBE COMPANY

Frick Building, Pittsburgh, Pa.

SUBSIDIARY OF

UNITED STATES STEEL CORPORATION

Quality Products — *Dependable Service*

PRINCIPAL SUBSIDIARY MANUFACTURING COMPANIES:

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Minnesota Steel Company
National Tube Company
The Lorain Steel Company
Tennessee Coal, Iron & R. R. Company
Universal Portland Cement Company

Pacific Coast Distributors—United States Steel Products Company, San Francisco, Los Angeles, Portland, Seattle, Honolulu. *Export Distributors*—United States Steel Products Company, New York City

Okla. City Wells Respond to Further Drilling Into Deep Lime Pay

By John Power
N. P. N. STAFF WRITER

TULSA, August 31

THE Oklahoma City pool, as though to discount the dry hole it turned in the week before, this week crowded other developments in the Mid-Continent almost out of the picture. Another increase in production from the Texas Panhandle; a 1300 barrel Simpson sand well in the area between the St. Louis and Pearson Switch members of the Seminole family; a 10,000 barrel drop during the week in Seminole production; a couple of small wildcat showings in Sumner county, Kansas, were events ruthlessly elbowed aside by the turbulent field at Oklahoma City.

This youngest of the state's major pools coasted into the present week end with a new rich streak discovered in the deep siliceous lime pay, and with three wells making better than 7000 barrels per day apiece, two of them being comfortably above 8000 barrel mark. With the 15,000-barrel No. 1 Johnson of the ITIO-Foster-Franklin-Cromwell interests still choked to about 5000 barrels per day, the field set a new peak for itself of 54,442 barrels for the 24 hours ending seven a.m. August 29.

This total may not be quite accurate for some 3000 barrels or so was held over from the day before, being crude from the Shell Petroleum Corp. No. 1 Petty, which insufficient tankage forced into hastily erected earthen storage. But this does not in any way affect the statement that the field is stepping right along, and is already, with but 13 producing wells, of sufficient size to crowd a crude market which is already somewhat a snug fit under the arms.

Shell Petroleum Corp. No. 1 Petty, a completion recorded in NATIONAL PETROLEUM NEWS last week, and the Sinclair Oil & Gas Co. No. 1 Stamper, which deeper drilling increased to 400 barrels an hour were the high lights. Production from the No. 1 Stamper had fallen to less than 100 barrels an hour at one time, although deeper drilling had increased it again. A week ago the well was making 3400 barrels per day.

Drilling was continued to a total depth of 6646. At 6643 the big increase to 400 barrels per hour was recorded, the well starting in all over again, with as much pep as a new well. Twenty-five hundred barrels of water is coming with the oil, but this is no increase over the amount it was making with its production from up the hole, a fact which is regarded as indicative of a brand new pay streak having been found in the lime.

No further drilling was necessary to increase the No. 1 Petty (a fortunate circumstance, as there are 2500 feet of drill pipe stuck in the hole). This obliging well apparently drilled itself in, as production continued to increase from its initial of 200 barrels an hour to better than double that figure. Total depth is still carried as 6500 feet. Production has slipped a little, though, as shown from the following table.

Oklahoma City Field Production by Wells

Company	Farm	Location	Well	Prod. Aug. 31 barrels		Prod. Aug. 24 barrels
Coline	Olds	24-11N-3W	1	4229		4488
I.T.I.O.	S. Bodine	24-11N-2W	1	925		1635
I.T.I.O.	A. Bodine	24-11N-3W	2	3373		3222
I.T.I.O.	Button	19-11N-2W	1	4766		4804
I.T.I.O.	Hemming	24-11N-3W	1	1598		2179
I.T.I.O.	Discovery	24-11N-3W	1	1285		1232
I.T.I.O. et al	Trosper	13-11N-3W	1	6129	(900 lb. B.P.	.....
I.T.I.O. et al	Johnson	25-11N-3W	1	3170	choked	3196
Mid-Kansas	Fortson	24-11N-3W	1	3665		3672
Mid-Kansas	Fortson	24-11N-3W	2	2074		2373
Prairie-Slick	Hiddleston	19-11N-2W	1	3690		4025
Sinclair	Stamper	30-11N-2W	1	3485		6560
Shell	Petty	30-11N-2W	1	9506		.....
		Total	13	50,990		34,311

Mean fishing jobs, which sometimes take weeks, or even months to clear up, delay the completion of the wells which are close to the sand, making it next to impossible to announce with any degree of accuracy just when any more wells will be completed. It does seem, though, that with seven wells practically in the heart of the field drilling below 6200 feet, that new producers will be added at a sufficiently rapid rate to keep the total production from the field on the up stroke.

It has not all been increase in the field, though, in spite of the spectacular performance of some of the wells. Indian Territory Illuminating Oil Co.-Foster Petroleum Corp. No. 1 S. Bodine continues to wage a seemingly losing fight against the water encroachment which has been so marked in this well. Production is now down to some 800 barrels per day, with the water amounting to 1400 barrels daily. The well is being drilled deeper—the tools are now pounding away in lime at 6526, but so far the further drilling has been unrewarded. The success of the deepened Stamper well of the Sinclair's, however, is a bright star which does much to encourage still further prospecting Chinaward.

And the dry hole is still dry, although it, too, is being drilled deeper. As it now stands the hole is full of water, drilling in hard lime at 6658 feet. Not taking surface elevation into account—the terrain is fairly level—the failure is now farther into the lime than the Sinclair's Stamper when the latter got its recent big increase. The dry hole is three locations south of the No. 1 Petty, and a direct north offset to the famous "gasoline" well. It is three and a half locations east of the Sinclair's Stamper well, which is in the center of a forty.

The "gasoline" well of the Sinclair Oil & Gas Co., reported dying and dead and then revived, according to the conditions existing as we write these columns from week to week, has more lives than a cat. The formation apparently takes the water introduced into the hole, for the gas flow stops, and the pressure falls off. But at the least agitation to recover the tools now lost in the hole, the gas breaks through, and the well comes to life. The well, according to latest reports, is shut in, but still alive.

The promises held forth by deeper drilling are bright enough to encourage a great deal of it in some of the older producing wells which have begun to decline noticeably. The discovery well, which has been in since last Dec. 4, had declined to some 1100 barrels a while ago. It has been responding to the treatment gradually.

The "Twentieth Century" and the "Broadway Limited" are more than names of trains. They stand for the last word in speed, service and travel luxury.

"Cementing by Halliburton," is likewise more than a mere specification. It is assurance of a degree of cementing efficiency never before approached—a type of cementing service recognized wherever oil is produced as the world-standard.

HALLIBURTON OIL WELL CEMENTING CO.
DUNCAN, OKLAHOMA

Production a week ago was 1232 barrels, the well being at a total depth of 6498 feet. Deepened to 6538, the well increased to better than 1400 barrels per day, although it could not hold that figure. Production for the 24 hours ending seven a.m. Aug. 31 was 1285 barrels. It will be deepened still further.

Until whatever shut-down agreement, if any, is put into effect, there will apparently be a continued increase in activity throughout the Oklahoma City pool. New locations are being staked daily, drilling goes ahead as fast as possible, and wells already producing are being deepened where their condition permits. Rigs, drilling wells and locations total 97 in the field proper.

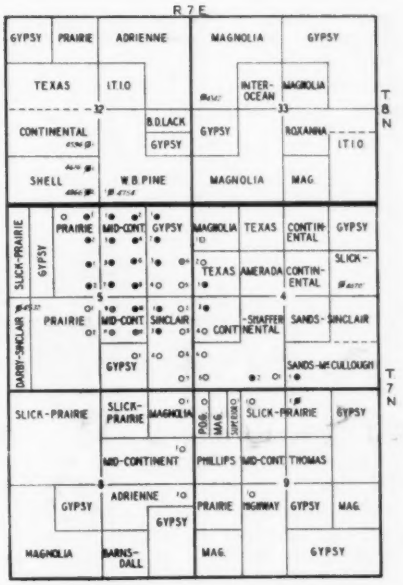
The Indian Territory Illuminating Oil Co.-Foster Petroleum Corp. head the list with 43, a number, which combined with the comp'eted wells. and the part interests in wells listed under names of other operators, means a drilling investment of something around $8.000.000. The Cromwell-Franklin combine and the Coline Oil Co. are tied at this writing for second place, with nine locations and drilling wells each, with the Sinclair third with six of its own, and two part interest with the Amerada. Laid end to end, the holes now drilling will total some 140 miles of hole by the time they are completed.

Possibly dwarfed to less than its true significance by the Oklahoma City pool activity, Gray county, Texas Panhandle, is nevertheless developing into an oil country of real economic importance. In spite of shut-downs and drilling restrictions, the Panhandle continues to show a steady increase in daily average production. with the Bowers and Finley pools of Gray county being largely responsible.

For the week ended August 30 the entire Panhandle averaged a daily output of 137,735 barrels, of which Gray county made 101,350 barrels. This is an increase for the entire district of 3791 barrels over the preceding week, when the daily average was 133,944 barrels.

The principal addition to the producers of Gray county was the Phillips Petroleum Corp. No. 5 Palmer, in Sec. 31, Blk. B-2, H.&G.N. survey, which made 2500 barrels the first 12 hours after being drilled in. The well, which had the pay at 2858-59, verifies, rather than extends the producing area, as it is offset to the south and southeast by production, as well as a third of a mile to the northwest. It is, though, indicative of the type wells which this Finley pool, two miles west of LeFors, is getting.

Located almost any place else in the Mid-Continent, the pool would be holding a dominant place in the attention of oil men. Carrying but a trace of sulfur, and as yet having shown no water, the pool's production is classed as sweet oil, and commands the highest posted price in the Panhandle, $1.70 per barrel for 44° A.P.I. gravity and above.



Another of the small rich spots found in the Seminole area. The famous Smith lease, covering 120 acres out of the west half of the east half of 5-7-7, has nine wells making 14,000 barrels daily. The pool as a whole has 22 wells, with a total production of 25,000 barrels per day.

Although not regarded as especially significant, the completion of Skelly Oil Co.'s No. 1 Decker, NW SW of 16-7-4, midway between the St. Louis and Pearson Switch pools of eastern Pottawatomie county, as a 1300-barrel well in the Simpson goes to show that this connecting strip can provide wells worth the drilling. Offsetting the 4000-barrel Hunton lime producer the Gypsy got a couple or three weeks ago in that company's No. 3 Green, the Skelly well was dry in the Hunton.

Carried on down to the Simpson, which it encountered at 4090, the Skelly well had an initial production in the lower formation of 45 barrels an hour. With the pay logged at 4116-4126, it made 1300 barrels the first 24 hours. There are a few other Simpson wells in its vicinity, but not many, most of the production being from the Hunton lime.

Extends Okla. City Field Mile and a Quarter

(By Telegraph)

TULSA, Sept. 3.—Flowing 250 barrels hourly from the detrital zone sand the Wirt Franklin Petroleum Corp.'s No. 2 Lowery extended the Oklahoma City pool a mile and a quarter to the north yesterday. The well in the center of the east half of the west half of the NW of 12-11N-3W made 4411 barrels the first 17 hours. The well in the north-south trend of detrital zone production is two and a quarter miles from the nearest detritus producer. A mile and a quarter south of the new well is the largest siliceous lime well in the field which is flowing better than 6000 barrels daily against 900 pounds back pressure.

The general Seminole area went into something of a slump, after having shown a two weeks period of gain. Counting the original and outlying pools under the general heading of Seminole production, the entire area is back again to around 384,000 barrels.

The Twp. 7N-7E pool, found and developed for the most part by the Mid-Continent Petroleum Corp. added another well during the week, bringing its total number of wells to 22, and the production therefrom to about 25,000 barrels. Mid-Continent, with nine wells so far completed on its 120-acre lease, has the lion's share with some 14,000 barrels daily production.

Sinclair Oil & Gas Co. brought in the new well, being its No. 3 Phillips, SW NE SE of 5-7-7. Top of the Wilcox was reported as 4220, with a total depth of 4243. The well swabbed 660 barrels the first 12 hours it was in. Not a real extension—see map—it nevertheless tends to show that there is still some untested area in this little pool which will be productive.

Kansas, save for a couple of unimportant wildcat showings in Sumner county, passed another week without any excitement. Marland, Inc.—the new producing company formed by E. W. Marland—has a wildcat showing estimated good for maybe 30 barrels daily from the chat in a test in 30-27S-2E. The pay was topped at 2960.

Dixie Oil Co., in 6-15-2W is reported to have shut down a wildcat for tankage after getting good showing of oil from the Viola lime at 3250-52.

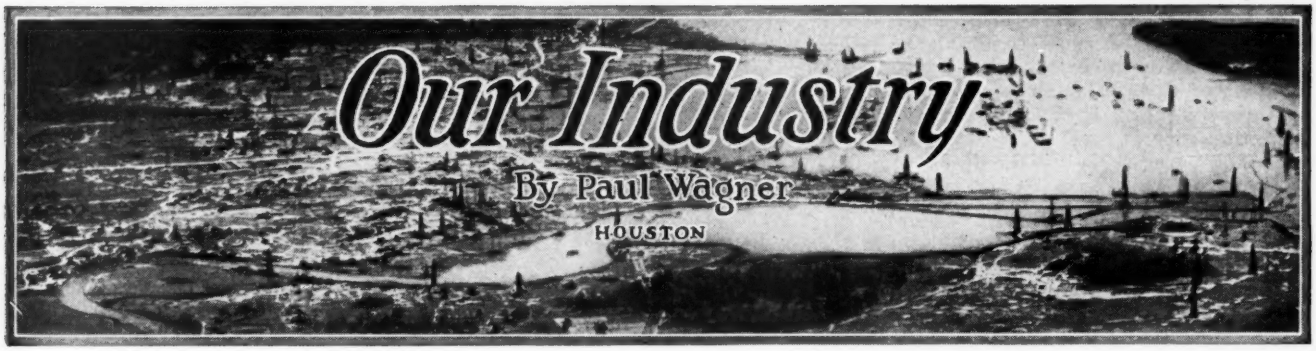
* * *

Notes on the Week

Gypsy Oil Co. No. 2 Harjo, NE NW of 18-9-7, in the east Seminole pool, as it is called, is flowing 300 barrels by heads from the Hunton lime at 4055. The well is drilling at 4081.

* * *

Payne county has a Wilcox well in The Shaffer Oil & Refining Co. No. 2 Little Chief, SW NW NE of 4-18-5, near the old Cushing field. This area has been explored extensively before, but this is the first time that a well has been carried to the Wilcox with success. Most of the more recent development has found gas in this area. The well, which topped the Wilcox at 3482, in to 3517, is making some 600 barrels per day.



IT HAS been said, whether truthfully or not, that oil and religion will not mix. Not so with geology, as witness press dispatches emanating from Chicago and quoting the Reverend Father Joseph L. Spaeth, professor of dogmatic theology at St. Louis University. Father Spaeth's views were presented in a paper before the American Association of Jesuit Seismologists.

"At the beginning," said Father Spaeth, "the earth was very hot and flooded with boiling masses of water. The heavy vapors in the air permitted no ray of light to penetrate. This was the first 'day.'

"The atmosphere about the earth then cleared all vapors except a packed mass of clouds high in the heavens. Thus the waters under the firmament (sea) separated from the waters above the firmament (clouds). This was the second 'day.'

"As the result of further cooling and the contraction of the liquid interior of the earth, its crust wrinkled and formed heights and depths, dry land on the heights. The land gradually was covered with plant life; the earth, then of high temperature and continuously shaded by a mass of clouds, was like an immense greenhouse in which some plants assumed gigantic proportions. There were also some smaller aquatic animals, spiders and insects. This was the third 'day.'"

The fourth relatively long period in the earth's formation, according to Father Spaeth, was that in which the clouds parted, revealing the sun, the moon and the stars. The fifth was that in which the sea became alive with a large number of aquatic animals and the air with bird life. The sixth day, he says, saw the emergence of higher animal life and, finally, man. The seventh day, presumably, was that which followed.

* * *

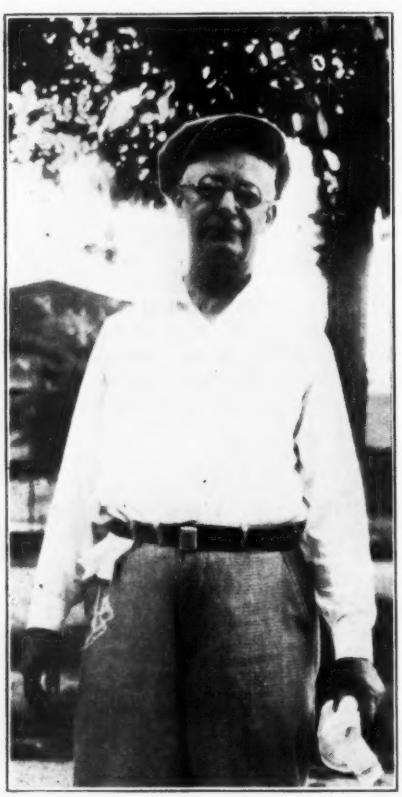
R. F. Duggan, the first man ever to take a lease and build a derrick in Webb county, Texas, has found that the law of compensation finally prevails if one is prepared to wait for it. Throughout his years of operating in the Laredo district, Mr. Duggan never completed a producing oil well until he recently brought in No. 5 Cueller, in sec. 277, Zapata county, in partnership with O. W. Killam. The well started flowing through a Lewis tester at depth of 1592 feet.

* * *

Charles D. Vertrees, who was successively stationed at San Angelo, San Antonio and Fort Worth in the old Marland Production Co. organization, has been transferred to the Midland, Texas, office of Continental Oil Co. He was at one time connected with the Marland Oil Co. of Mexico, at Panuco, engaged in sub-surface geology.

* * *

W. R. Thomas, in charge of The Texas Co.'s land department at Houston, is a veteran in the organization. His connection with that corporation dates back to the time when the old Producers Oil Co., a subsidiary, amounted to being its development and production department. He is widely and favorably known in the industry. His principal diversion is golf.



W. R. Thomas

A. C. McLaughlin, for years a vice-president of the Associated Oil Co., San Francisco, will hereafter devote his time to consulting work for the Southern Pacific railroad and other interests. His resignation from the Associated, now controlled by the Tidewater Associated Oil Co., became effective Aug. 1. Lloyd F. Bayer, refinery vice-president, succeeded him on the Associated's board of directors.

* * *

George M. Reynolds, secretary of the J. S. Abercrombie Co., Inc., Houston, has been with that firm of producers and drilling contractors since the spring of 1922. Prior to that time, Mr. Reynolds was associated with Frank S. Carothers, now a Houston supply man, in the land department of the old White Oil Corp. Mr. Reynolds takes an active part in the affairs of the Gulf Coastal petroleum industry and is widely known.

Geo. M. Reynolds

C. E. Yager

C. E. Yager, chief geologist of the Texas Pacific Coal & Oil Co., Fort Worth, has occupied his present position since the election of David Donoghue to be land and geological director several years ago. He was Mr. Donoghue's assistant at the time the last mentioned individual was chief geologist. Mr. Yager is an active member of the American Association of Petroleum Geologists and has served the Fort Worth Geological Society as an officer.

* * *

W. L. Stewart, president of the Union Oil Co. of California, Los Angeles, is the first member of his organization to wear a 35-year service emblem. Nearest to Mr. Stewart's are the records of W. W. Orcutt, vice-president, Frank F. Hill, manager of the field department, and C. O. Dahlgren, now on the pension list. All are 30-year men.

* * *

W. F. Humphrey, chairman of the board of directors of the Associated Oil Co., San Francisco, and California executive representing the parent Tide Water Associated Oil Co., administers Pacific Coast financial affairs of the corporation and as chief counsel heads the legal, real estate, tax, claims and insurance departments. He is not directly concerned with operations. As chairman of the board of directors of the Associated his approval is required on all major questions of finance, investment or adjustment.

Henry J. Morgan, Jr., is now connected with the Atlantic Oil Producing Co., and is stationed in the Shreveport, Louisiana, territory. He was formerly a geologist on the staff of the Huasteca Petroleum Co., in the Tampico district.

* * *

Sheldon Hardin, president of the Southern Crude Oil Purchasing Co., and the Southern Pipeline Co., subsidiaries of Pan American Petroleum & Transport Co., was recently reelected at adjourned meetings of directors held in Fort Worth. W. R. Wheeler was elected vice president; John Campbell, secretary-treasurer; and J. C. Tomlinson, assistant secretary.

* * *

Donald C. Barton, consulting geologist and geophysicist of Houston, has been appointed on the general business committee of the American Association of Petroleum Geologists as member-at-large. The appointment was made by President John Y. Snyder of Shreveport.

* * *

Bart Myers, resident manager of the Tropical Oil Co., in Colombia, South America, recently returned home after a visit to friends in the United States and Canada. He was accompanied by Mrs. Myers. Before going to South America, Mr. Myers was in charge of the Carter Oil Co.'s operations in the Rocky Mountain region.

* * *

W. H. Haynes has been transferred from the Tampico terminal of the Huasteca Petroleum Co., subsidiary of the Pan American Petroleum & Transport Co., to Aruba, Danish West Indies, where he will be connected with the operations of a refinery arm of the Pan American group.

Roy E. Collom

C. B. Jones

C. B. Jones, who recently joined the geological staff of the Southern Crude Oil Purchasing Co., subsidiary of Pan American Petroleum & Transport Co., has been stationed at San Antonio for work in the Luling fault zone territory.

Mr. Jones was formerly at Abilene on geological work for the Union Oil Co. of California, which operates in west Texas through a Nevada subsidiary. Prior to that, he was in the geological department of the old Marland Oil Co. of Texas.

* * *

Roy E. Collom, Los Angeles, in charge of Continental Oil Co. operations on the Pacific Coast, held the position of executive vice president in the older Marland Oil Co. of California. He joined the Marland organization in 1923 as chief geologist after resigning from the California State Mining Bureau, of which he had been in charge as chief supervisor for a number of years.

Mr. Collom was educated at the Colorado School of Mines and Leland Stanford University, gaining his A. B. degree at Palo Alto in 1906. In 1920-1921 he served as petroleum technologist for the United States Bureau of Mines. He was elected a vice president soon after joining the Marland organization, but did not reach ranking executive position until 1928. Besides the American Association of Petroleum Geologists he holds membership in the Geological Society of America.

Continental Oil Co. Drills In Offset To Milham's Kettleman Hills Well

By Jack N. Westsmith
N. P. N. STAFF WRITER

LOS ANGELES, Aug. 30

ATTENTION of California oil operators was again drawn to the Kettleman Hills field by the completion of Continental Oil Co.'s (Marland) well No. 12-8, an offset to Milham Exploration Co.'s discovery well. Continental's well blew in from a depth of 6875 feet, producing approximately 600 barrels of 64 gravity oil on a 4½-hour gage. At latest reports a gasket below the blowout preventer weakened and enabled the gas and oil to escape.

Although no actual gage has been made of the amount being produced, a conservative estimate places it at not less than 50 million cubic feet per day. Continental has a gasoline plant near the well and it is understood has made arrangements to dispose of the excess dry gas.

This well is one of the three offsets to the discovery well that will be allowed to produce for at least three months under the terms of the Kettleman Hills agreement. Of the other two, both owned by Standard Oil Co. of California, one, No. 81, is now producing 900 barrels of oil and 20 million cubic feet of wet gas, and the other, No. 1P-8, is drilling at 6251 feet.

According to latest reports, Milham Exploration Co. has not seen its way to sign the Kettleman Hills agreement that would shut in production from California's largest potential field for a period of two years. Just what effect this action on the part of Milham will have on other operators at Kettleman is not now apparent although a number of the larger interests have stated that they would continue to obey the wording of the agreement.

The primary reason for Milham's reluctance to join in curtailing production at Kettleman Hills was an agreement entered into with the Pacific Gas & Electric Co. and The Texas Co. whereby these companies would take the dry gas and natural gas respectively. P. G. & E. officials are reported to have a guarantee from Milham that their supply of dry gas would not be cut off.

Approximately 30 million cubic feet of gas from the discovery well is now being absorbed by the P. G. & E. in its newly completed gas line from Kettleman Hills to San Francisco. A pipe line is also under construction by the same company, from the gas field of Buttonwillow that will ultimately connect with the Kettleman Hills line.

Natural gas from Buttonwillow is lower in B.t.u.'s than that from Kettleman Hills and a certain quantity of gas from the latter field is necessary to raise the heat value of the former. This almost precludes any possibility that the needs of the P. G. & E. could be supplied from Buttonwillow alone.

Standard Oil Co. of California has under construction a pipe line from Kettleman Hills to Estero Bay, through which it will pump the oil from the producing wells.

Standard also has six wells drilling below 6000 feet and nearly at the point for setting casing. Milham Co.'s Elliot No. 2 is at 6883 feet and a production test will be made within the coming week on its Kennedy No. 1 which is now drilling at 7309 feet. This well is known to be about 500 feet down structure from the discovery well.

Several other wells are drilling at critical depths; among these are: Pacific Western Oil Co.'s No. 27, which is giving an acetone cut at 6446 feet and for which preparations are under way to set 8⅝-inch casing, Petroleum Securities' Felix No. 1 is drilling ahead at 6475 feet. Shell Oil Co.'s Armstrong No. 1, which was killed to deepen several weeks ago is now down to 7020 feet and it is reported that the showings are favorable.

Production at Santa Fe Springs fell off during the past week through a lack of completions in the lower zones. Total estimated production was placed at 284,800 barrels for week ending August 28, a decrease of 21,700 barrels as compared with the figure for the previous week.

Natural decline at Santa Fe Springs continues to take its toll among the recent large completions and it is not expected that any substantial increase will be noted in the field's output. Dearth of completions during the past week, with the possibility of a number in the coming week, may cause a slight rise in the production curve.

There are now 41 wells drilling in, 6 wells cemented over and 14 wells preparing to complete in the O'Connel zone. There are 19 wells drilling in, 15 wells cemented over and one well preparing to complete in the Lower Clarke sand.

Exploitation of the third Clarke zone is not expected to be held back through enforcement of California's new gas law, as operators feel that ways and means will be opened to control any excess gas.

A number of the operators have been flowing their wells wide open during the past month in an effort to ease off the gas pressure as much as possible. At the same time, a number of the major operators have made preparations to bean their wells in on September 1.

Union Oil Co., a strong advocate of the new law, killed its Alexander No. 16 which was producing 30 million cubic feet of gas and 3900 barrels of 33 gravity oil. Other companies are reported to be considering a method of killing wells with abnormal oil to gas ratios without hurting their production figures and if possible without damaging the ultimate output from such wells.

It has been the contention among a number of operators that wells with a large percentage of gas per barrel of oil will not approximate their former production after having been killed or even beaned excessively. There is also a tendency on the part of wells in which the flow of oil and gas is curtailed, to sand up. These facts have been advanced by a number of Independent operators as reasons for not adhering to curtailment programs in the past and are expected to cause a number to seek methods for evading the present law.

Union Oil Co. led all other companies at Santa Fe Springs in both production and average per well, having an output of 55,750 barrels from 25 wells. General Petroleum Corp. was second with 49,125 barrels from 49 wells and The Texas Co. third with 33,035 barrels from 18 wells. In addition to these figures, which show the production from the deep zone, each company had a small output from the shallower sands. Production by zones was as follows:

Zone	Production	No. wells	Av. per well
Nordstrom	18,158	23	790
Buckbee	21,168	42	504
O'Connell	181,885	89	2043
Lower and 3rd Clarke	38,053	20	1903
Shallow sands	25,557	214	120

A promising test well is being drilled by Montebello Trust Co. on the south edge of the old Montebello field, northwest of Santa Fe Springs. The well is now drilling in hard shale at 2900 feet after passing through approximately 150 feet of oil shale at 2400 feet. Shell, Union, Texas and Standard oil companies hold the majority of the acreage in the Montebello field.

Standard is reported to have obtained good production below 5000 feet in a deep test drilled several years ago on its property about a mile west of the Meyer well but shut it in under an agreement to delay the development of a deep zone. The Meyer well will be drilled to depth of at least 5000 feet to test the southern section of the field.

Considerable excitement has been caused by the reported penetration of oil sand in System Oil Co.'s Bradley No. 1, located five miles southeast of Santa Maria, California. Major companies have leased considerable property adjacent to this wildcat of the System Co. Western Gulf added 480 acres to its holdings in this area to make a total of 2200 acres. The Bradley well is standing cemented in preparation for a coming production test.

Wildcat Acreage Consolidated Under Percentage Plan

By Paul Wagner
N. P. N. STAFF WRITER

HOUSTON, Aug. 30

PERCENTAGE plan consolidations of wildcat acreage have been perfected by oil operators in two widely separated areas of the southwest. One is in Miller county, southwest Arkansas, and the other in Loving county, West Texas.

In Miller county, C. B. Lenz is starting a 3500-foot Trinity test, in 13-15-26, on a wildcat block of 12,000 acres near earlier holes which cored oil saturated sands.

Five interests of 20 per cent each in the Lenz block are valued at $5000 each for testing purposes. Two such interests were taken by the Arkansas Natural Gas Co., of Shreveport, one each by the Standard Oil Co. of Louisiana and the Louisiana Oil Refining Corp. Lenz himself retains the fifth.

In Loving county, Texas, Humble Oil & Refining Co. will drill a 4500-foot test in the center of sec. 35, township 2, Texas & Pacific block 55, upwards of eight miles northwest of the Wheat pool developed by Rio Grande Oil Co.

Humble's location is also in the center of a nine section block consolidated for development on a percentage basis by the Humble, the California Co., Associated Oil Co., Shell Petroleum Corp., Independent Oil & Gas Co., and Sun Oil Co.

The Humble, Sun and California companies each own a two-ninths interest in the well and surrounding block, having contributed two sections to the enterprise. The Independent, Shell and Associated, which contributed one section each, hold one-ninth interests.

Cost of the initial test and future development expense, if any, will be prorated on a similar basis.

Virtually all the interested companies own other leaseholds surrounding the block on which the percentage test is being put down. In the event of production, should it extend outside the nine-section block, other surrounding development would be of competitive character.

The No. 2 Bowen & Wells test of Lockhart & Co., subsidiary of the Rio Grande Oil Co., has proved to be the best of the dozen or more wells completed to the Delaware lime in the Loving county area. The well, in Sec. 92, block 1, W&NW survey, made 652 barrels initial production testing 40.4 A.P.I. gravity, after a 150-quart shot of nitro-glycerin at 4194-4233 feet.

Before the No. 2 Bowen & Wells test was completed, Lockhart & Co. had 580 barrels daily production from 13 wells in the field.

Another productive area in West Texas was opened when the Rowan & Tong test on the McDonald land, sec. 46, block 12, Pecos county, came in flowing heads of 15 to 20 barrels every 20 minutes, Aug. 27.

The test is about five miles north of the Taylor-Link development on University land, in blocks 13 and 16, Pecos county. Pay was found at 1605 feet in the Rowan & Tong well, which has surface elevation of 2484 feet.

Both the Rowan & Tong and the Taylor-Link areas are approximately 18 miles in a general westerly direction from the phenomenal Yates development in Pecos county.

In Gray county, Texas panhandle, where agreement has been reached to retard development on about 25 wells for the purpose of relieving crude oil congestion, the following shut-downs are reported:

Danciger Oil & Refining Co., Nos. 4, 6 and 7 Powell, northeast quarter of sec. 28, block B-2.

The Texas Co., No. 3 Bull, northwest quarter sec. 2, block B-2.

Prairie Oil & Gas Co., No. 1 Langham, southwest corner sec. 1, block B-2.

White Eagle Oil & Refining Co., Nos. 1 and 2, Cook-Faulkner, southeast quarter sec. 29, block B-2.

The Texas Co., No. 7 Cook-Faulkner, southeast quarter sec. 29, block 2.

The following enumerated tests are to be shut down after casing has been set on top of the granite wash pay:

Champlin and Danciger Oil & Refining Co., Nos. 2 and 3 Cook-Faulkner, sec. 30. block B-2.

Operators Oil Co., Nos. 5, 6, 7 and 8, Cook-Faulkner, sec. 30, block B-2.

Magnolia Petroleum Co., Nos. 1 and 2 Wright, southwest quarter sec. 13, block 3.

The Texas Co., Nos. 3 and 5 Coombs-Worley, southeast quarter sec. 36, block 3.

Phillips Petroleum Co., Nos. 6 and 8, Palmer, sec. 31, block B-2.

Gulf Production Co., Nos. 2 and 3 Coombs-Worley, southwest quarter sec. 36, block 3.

McMan Oil & Gas Co., No. 6 Palmer, sec. 31, block B-2.

Humble Oil & Refining Co., No. 1 Palmer, sec. 31, block B-2.

Humble Oil & Refining Co., Nos. 3 and 4 Jackson, sec. 90, block B-2.

Wilcox-Worley & Reynolds, No. 32, southeast corner sec. 61, block 3.

Completions in North Louisiana and Arkansas, Week Ended August 29, 1929

Louisiana—Bossier Parish

Company	Well	Location	Depth	Yield
Palmer Corp.	A. W. Roos No. 1	23-17-12	1722	1M gas
Triangle Drilling Co.	Thigpen-Herold No. 3	11-17-12	873	1M gas

Caddo Parish

Simplex Oil Co.	Dickson No. 1	33-20-14	2702	salt water, abd.
Haynes Bros.	Oden No. 1	19-19-14	2500	dry, aband.
Ohio Oil Co.	Hunter No. 3	17-19-14	2433	dry, aband.
Ohio Oil Co.	Hunter No. 5	17-19-14	2510	salt water, abd.

Claiborne Parish

Smitherman & McDonald	Miller No. 1	17-23-8	4780	dry, aband.

LaSalle Parish—Urania

Company	Well	Location	Depth	Yield
Air-Lift Oil Co.	Mop No. 2	26-10-1E	1535	30 bbls.
G. W. Zoder	King No. 3	13-10-1E	1515	15 bbls.

Ouachita Parish—Monroe

Arkansas-Louisiana Pipe Line Co.	McEnery No. 2	21-19-4E	2190	4M gas

Webster Parish—Cotton Valley

Ohio Oil Co.	Bodcaw No. 44	28-21-10	4689	11½M gas

East Texas—Harrison County

Nick Babare	State Line-Furrh No. 2	Lipscomb HRS	2367	1M gas
C. H. Lyons et al.	Furrh A-1	Lipscomb HRS	2380	1M gas

Completions in Oklahoma and Kansas, Week Ended August 31, 1929

OKLAHOMA

Carter County

Company	Well No.	Location	Depth		Init. Prod.
Magnolia	6	NW SW SE 18-1-3 W	T.D. 400		Dry

Coal County

I. T. I. O.	1	SE SW NW 10-1-11 E	T.D. 7890		Dry

Comanche County

Muse et al	1	NW SW SW 4-1-9 W	T.D. 2503		Dry

Creek County

Furhman	1	SE SW NW 6-14-10 E	T.D. 3445		Dry
Elson et al	1	SWc 6-14-10 E	T.D. 3455		Dry
Carter	7	SE SW NE 18-16-9 E	T.D. 3078	OWD	Dry
Flynn-Morgan et al.	1	SW SE SE 3-18-9 E	T.D. 2994		Dry
Sherry et al	1	SW NE NE 28-19-9 E	T.D. 2785		Dry
Pioneer	1	SEc SW 26-14-9 E	2960-2986		12
Silurian	28	NEc SE NE NE 17-18-7 E	2492-2546		50
Superior	1	SWc NE SE 17-19-9 E	2247-2264		30

Garvin County

Magnolia	1	NEc 16-1-3 W	T.D. 1598		Dry

Grady County

Ray	1	NWc 20-5-8 W	T.D. 3363		Dry
Meridian	3	CWL SW SE 25-4-8 W	2042-2171		10M

Hughes County

Pine	1	NEc 6-8-9 E	3400-3403		26M

Kay County

Comar	3	NW SE NW 34-25-1 W	T.D. 4648	OWD	Dry

Logan County

Healdton	1	SWc 29-18-4 W	6636-6650		45

McIntosh County

Beard-Hammond	6	NEc SE 27-11-15 E	T.D. 1835		Dry
Parks	1	CWL SE NW 21-15-15 E	T.D. 2600		Dry

Muskogee County

Johnston et al	1	NWc NE 23-13-18 E	632-651		1M
Mills et al	1	CWL E½ NW NW 24-13-18 E	513-534		2M
Babcock Bros	6	SW NW NE 8-15-15 E	1616-1623		8

Noble County

I. T. I. O.	1	NEc SW 33-21-1 W	3365-3372		18M

Okfuskee County

Mid-Continent	2	SE SW NE 31-11-11 E	3027-3064		55
Champlin	1	SE NE SW 29-12-10 E	2895-2920		145
Sheldon	1	NWc SW 22-12-11 E	2721-2725		180
Pure	1	C NW NW 25-11-10 E	T.D. 4250		Dry
Kimbley	1	NEc 13-11-11 E	T.D. 2970		Dry

Okmulgee County

Levine et al	1	SW NW SE 24-14-12 E	T.D. 2010		Dry
Wheeler et al	2	NEc 6-15-12 E	T.D. 2624		Dry
Devonian	1	SWc SE 35-15-12 E	T.D. 1635		Dry
Jackson-Wise	10	CWL SW SW 3-15-11 E	2232-2260		15
Pine et al	4	CNL SE SE 9-15-12 E	2625-2654		145

Osage County

Gray et al	1	CNL NE 3-23-8 E	2490-2536		30
McCune-Wormser et al.	2	C NE 15-24-8 E	2655-2656		1780
Peters—P & R Corp.	2	SW SE SW 22-27-11 E	1638-1658		100

Pottawatomie County

Empire-Amerada	1	SW NE NW 8-9-5 E	4360-4380		2215
Phillips	2	SEc NW NW 8-9-5 E	4373-4395		1394
Pine	2	SE SW NE 8-8-5 E	3997-4025		445
Wilcox	6	NEc SE 8-8-5 E	4076-4095		945
Shell	1	SWc NW 9-8-5 E	4024-4050		1285
Indep.-Darby	1	NW SE NW 22-7-4 E	3602-3714		23M
Houston	3	NEc SW 17-7-4 E	4060-4092		900
Houston	2	NW NE SW 17-7-4 E	4115-4130		1800
Atlantic-Indep	2	NWc NE 16-7-4 E	3947-3950		90
Magnolia	1	SW NW SW 15-7-4 E	3690-3763		335
Darby	2	SE SW SW 9-7-4 E	4005-4046		320
Houston	4	NWc SW 17-7-4 E	T.D. 4221		Dry
Indep.-Margay	1	SE SW NE 8-7-4 E	T.D. 4617		Dry

Seminole County

Cont.-Shaffer	2	SW SE SW 4-7-7 E	T.D. 4466		Dry
Amerada	1	SE SW SE 22-7-6 E	T.D. 4232		Dry
Texas	1	SW NE SW 24-7-6 E	T.D. 4288		Dry
Gypsy	2	SEc NE 11-8-6 E	4690-4700		70
Cont.-Shaffer	3	NWc SW 4-7-7 E	4160-4169		1325
Shell	2	SW NE NW 23-7-6 E	3105-3140		500
Burke-Gries et al.	1	NE SE SW 32-10-6 E	4410-4431		900

Stephens County

Pace et al	8	SWc NW SE NE 13-2-8 W	1449-1473		40
Pace et al	2	NE SW SE 21-2-7 W	1729-1742		65
American P. L.	9	SWc SE NW 34-1-8 W	1717-1720		25
Ven-Mex et al	7	C NE NW 34-1-8 W	2247-2253		135
Harris-McNeil	1	SEc SW 11-2-5 W	1454-1457		5
Haynes-Carter	1	SE SW NE 4-3-6 W	T.D. 2261		Dry
Winkler-McQueen	7	NWc NE SW NW 28-1-8 W	T.D. 2620		Dry

Wagoner County

Cherokee Public Service	2	NEc SE 35-16-17 E	875-884		15
Finefield	7	SWc NW NE SW 22-16-19 E	763-788		70

Butler County

Empire	84	SEc NE 19-26-5 E	2546-2629		75
Barnsdall	1	NEc NW 21-26-3 E	T.D. 3410		Dry

Cowley County

Landon	1	NEc SE 6-30-5 E	T.D. 2880		Dry
Indep.-Vickers	2	SE NE NE 16-32-4 E	T.D. 3300		Dry

Greenwood County

Parkers et al	1	SEc NE 5-24-11 E	T.D. 2091		Dry
Bitler-Hays	1	SWc NE 3-25-10 E	T.D. 2162		Dry
Empire	1	SW NW SE 36-23-11 E	1764-1852		800
Empire et al	3	SE NW NE 22-22-12 E	1717-1736		150
Empire	4	SW NE SE 21-23-11 E	1848-1944		200
Phillips	2	NW NE SE 28-23-11 E	1858-1954		700

Harvey County

Marland	1	SWc SE 26-22-2 E	T.D. 3210		Dry

Kingman County

Gypsy	1	NEc NW 18-29-5 W	T.D. 4580		Dry

Marion County

Empire	1	SEc 1-19-2 E	T.D. 2861		Dry
Howarth-Stoddard	1	SE NW NW 30-21-3 E	T.D. 3199		Dry

Marshall County

Irwin Bros	1	NEc NW 10-3-7 E	T.D. 2525		Dry

McPherson County

Merriman et al	1	SWc NE 32-18-2 W	T.D. 3456		Dry
Washabaugh et al.	1	NEc 9-21-3 W	3301-3304		30

Sedgwick County

Bu Vi Bar et al	5	NE SE NE 12-26-1 W	3355-3364		1400
Davis-Skelly	12	NW SE NE 1-26-1 W	3379-3381		125
Shell	2	NE SW SW 15-26-2 E	2924-2927		335
Bu Vi Bar et al	9	SE NW NW 7-26-1 E	3365-3370		295
Alladin	3	SW NW SW 6-26-1 E	2599-2605		40
Tidal	1	SWc SE 31-25-2 E	T.D. 3434		Dry
Barnsdall	1	NEc SE 24-25-1 E	T.D. 3700		Dry

Completions in California, Week Ended August 24, 1929

Santa Fe Springs

Company	Well No.	Location	Depth	Init. Prod.
Geo. F. Getty	Hill 30	....	7020	1880
Richfield Oil Co	G P 1	....	6960	1600
The Texas Co	Baldwin 3	....	6876	3550
Union Oil Co	Bell 42	....	6848	2200
Wilshire Oil Co	Koontz 2	....	6850	500
Ambassador Pet. Co	Baker 13	....	6849	2300

Long Beach

Delaney Pet. Corp	Cerritos 8	....	7215	155
Hancock Oil Co	Signal 12	....	7950	125
Vanago Oil Co	1	....	7286	1550

Athens-Rosecrans

Barnsdall Oil Co	Rosecrans 3A	....	5840	350

Seal Beach

Company	Well No.	Location	Depth	Init. Prod.
Geo. F. Getty	Leibert 4	....	6166	90

Baldwin Hills

Standard Oil Co	Vickers 1-23	....	2520	110

Kern Front

Bishop Corp	Fano 1	23, 28-27	1981	180

Ventura Ave.

Associated Oil Co. (S. P. Land Co.)	Foster 3	....	6958	621
Shell Oil Co	Taylor 40	....	7025	752

New Field Operations in Oklahoma, Kansas, North, North Central, East Central, Panhandle and West Texas, Week Ended Aug. 31, 1929

OKLAHOMA

Carter County

Company	Well No. & Farm	Location
Ven-Mex	3-Dixon	NE SE NW 30-1-3 W
Magnolia	2-Hightower	NW SW NE 30-1-3 W

Creek County

Atlantic	1-Gooden	NEc SE 15-14-10 E	
Atlantic	3-Bear	NEc SE NW 16-14-10 E	OWD
Tidal	2-Keys	SW NE NW 28-17-7 E	
Magnolia	8-Mussellem	NE NW SE 8-18-7 E	OWD

Lincoln County

Magnolia	1-Freeman	SW SE SE 8-14-4 E
Magnolia	1-Waggoner	NE NW NE 17-14-4 E

Muskogee County

Mills et al	1-Jordan	SWc SE SE 14-13-18 E
Johnston et al	1-Cowert	NEc SE NW 23-13-18 E
Aggas et al	1-Wheat	SEc NE SW 28-16-15 E

Noble County

Sinclair	1-Waltermire	NWc SE 33-21-1 W

Okfuskee County

Company	Well No. & Farm	Location
Champlin	14-Jacobs	CEL SE SE 15-11-11 E
Shell et al	1-Hopping	NEc SE 21-12-11 E
Independent	1-Wilson	SWc NW 22-12-11 E

Oklahoma County

Coline	3-Clauer	SEc 25-11-3 W	
I. T. I. O.	2-Anderson	NE SE NE 25-11-3 W	

Okmulgee County

Mechlin-Berlin	7-Colbert	CWL SE NE 14-14-14 E	OWD
Wallace	9-Colbert	NWc SW NE 14-14-14 E	
Wheeler et al	3-Fish	NWc SE NE 6-15-12 E	
Lavery et al	1-Rentie	CWL SW SW 11-15-14 E	

Osage County

Okla. Power & Water	120	C SW 4-20-10 E	
Peters	1	NWc NE 9-20-10 E	
Kay County	8	SE NE SW 22-24-7 E	
I. T. I. O.	417	CSL SW NW 8-24-9 E	

(*Continued on Page 55*)

New Field Operations in Oklahoma, Kansas, North, North Central, East Central, Panhandle and West Texas, Week Ended Aug. 31, 1929

(Continued from Page 54)

Company	Well No. & Farm	Location	
I. T. I. O.	419	SEc SW NW SE 8-25-11 E	
I. T. I. O.	414	NWc SE NW 26-27-11 E	
I. T. I. O.	416	SW SE SE 35-29-10 E	
Winona	13	NW SW SW 22-29-11 E	
Pontotoc County			
Superior	5-Maulden	SEc NW 32-5-5 E	
Texas Pacific	2-Hatcher	NE NW NE 30-5-5 E	
Indep.-Shaffer	1-Moses	NE SE SW 10-5-4 E	
Pottawatomie County			
Empire-Amerada	3-Bullock	SE NE NW 8-9-5 E	
Pure	1-Brandenburg	NW NE NW 21-7-4 E	
Seminole County			
Skelly-Prairie Slick	2-Varnum	NE NW NW 5-9-6 E	
Carter	1-Chowning	SW NW SW 19-9-6 E	
Amerada	3-Sullivan	SE SW NW 17-9-6 E	
Sinclair-Cont.	3-Warrior	SW SE NW 17-9-7 E	
Mid-Continent	11-Smith	SW NW SE 5-7-7 E	
Magnolia	3-Harjo	SE NE NE 14-7-6 E	
Gypsy	4-Canard	SE NE NE 22-7-6 E	
Shell	4-Hotulke	NW NE NW 23-7-6 E	
Mid-Continent	16-Fleet	SW SE SE 7-5-8 E	
Stephens County			
Pace et al	10-McMasters	NEc NW SE NE 13-2-8 W	
Jenkins et al	1-Bunch	NEc SW NE SW 21-2-7 W	
Denver-Wichita Falls PL.	6-Taliaferro	SEc NW SE 28-1-8 W	OWD
Lone Eagle	14-Simpson	SEc NW SE 34-1-8 W	
Heydrick et al	3-Pool	SWc NW SW SW 35-1-8 W	
Wagoner County			
Cherokee Public Service	2-Brown	CNL NW SW 36-16-17 E	
Horner et al	2-Pitts	CWL E½ SE SW 6-17-18 E	
Ash Bros.	1-Drew	SE NE SW 5-18-17 E	
KANSAS			
Butler County			
Empire	5-Hutchinson	NW SW NE 34-27-5 E	
Empire	89-Koogler	NE SW NE 19-26-5 E	
Empire	88-Koogler	NE SE NE 19-26-5 E	
Walton et al	1-Weakley	SWc NE 2-24-3 E	
Chase County			
Polhamus et al	2-Leighty	NW SW NW 36-22-9 E	
Colwey County			
Landon et al	1-Wheeler	SW NW SE 24-30-4 E	
Dickinson County			
Krueger et al	1-Diehl	NW NE NE 17-13-4 E	
Greenwood County			
Sheedy et al	3-Newman	C S½ S½ 32-23-13 E	
Phillips	4-Beal	NEc 28-23-11 E	
Empire	3-Foggett	CSL SE NW 9-25-13 E	
Empire	2-Patterson	SE NW SE 36-23-11 E	
Simmons et al	7-Clopton	NEc NW 18-22-11 E	
Independent	12-Shepherd	SW NE NW 11-22-10 E	
Dixie-Amerada	1-Ellis	NWc 27-23-11 E	
Simmons et al	1-Patterson	SWc 22-23-11 E	
McCullough et al	1-Hinchman	NW SW NE 17-24-13 E	
Lyon County			
Phillips et al	1-Houghton	SWc 20-21-12 E	
Sheedy et al	1-Welsh	NEc SE 30-20-10 E	
Marion County			
Marshall-Beck	1-Higgins	NEc 33-19-5 E	
McPherson County			
Milmac et al	1-Decker	NWc 11-20-3 W	
Transcont.	1-Algers	NEc SW 1-19-5 W	
Rice County			
Boucher	1-Boy	SWc 16-21-10 W	
Sedgwick County			
Shell	2-Brown	SWc NW SE SW 15-26-2 E	
Sumner County			
Slick-Pryor-Lockhart	1-Peasel	NWc 33-31-1 W	
Champlin	4-Latta	SWc NW SE NW 9-30-2 W	OWD
TEXAS			
NORTH CENTRAL & EAST CENTRAL			
Anderson County			**Survey**
Humble	2-Beard	.....	Trimmer
Humble	2-Riverbed	.....	Riverbed
Humble	2-Purvey	.....	Clark
Humble	4-Smith	.....	Roberts
Brown County			
Smith	3-George	.....	Caddick
Michael	1-Smith	Sec-5 Blk-789	.....
Lloyd	23-Collin	Blk-139	Smith
Green Prod	6-Davis	.....	Townsend
Henning et al	1-Kesler	Sec-42	Kesler
Texas	2-Kesler	Sec-42	Kesler
Texas	3-Kesler	Sec-42	Kesler
Cross Cut	12-Kellar	Blk-141	Mitchell
Ramsey	6-Hernon	Blk-147	Logan
Young Bros. et al	11-Kilgore Bros.	Blk-152	McClure
Ven-Mex	6-Hickman	Blk-801	McGlon
Danish et al	1-Cannon	Blk-3	Arenbeck
Callahan County			
Eubanks & Son	6-Eubanks	Blk-48	Comal Co. Sch. Ld.
Mook Texas et al	2-Johnson et al.	Blk-83	Comal Co. Sch. Ld.
Moutray	47-Hickman	Sec-149	BBB&C
Humphries Bros.	11-Gary	Sec-40	D&DA
Amerada	1-Kadford	Sec-20	D&DA
Cherokee County			
Humble	4-Elliott et al.	.....	Windsor
Coleman County			
Pennman et al	1-Crowder	Blk-483	Woods
Jackson et al	2-Dancy	Blk-258	Luckenback
Epler et al	1-Roper	Blk-271	SP
Green et al	1-Johnson	Blk-219	Moffatt
Texas	1-Adams	Blk-244	Frazier
Taylor-Link	2	Sec-105	ET
McDonald-Campbell et al.	1-Casey	Sec-4 Blk-657	Cochran
Ownes Inc	1-Anny	Sec-3 Blk-628	Nixon
Humble	1-Falkner	.....	Shelton
Eastland County			
Lone Star	1-August	Sec-475	SP
Tex-Wa & Kirk	4-Turner	Sec-30 Blk-2	H&TC
Tex-Wa et al	1-Spencer	Sec-29 Blk-2	H&TC
Limestone County			
Jensen-Baggett	1-Powell	.....	Varella
McCullouch County			
Smith et al	1-Bennett	Blk-172	Saunders
Palo Pinto County			
Texas Pacific	159-Stuart & Son	Sec-71 Blk-4	TE&L
Thomas	2-Thomas	Sec-2	H&GN
Walker et al	1-Hens	.....	Ashwood
Panhandle	1-Castrees	.....	Smith
Shackleford County			
Cranfill-Reynolds	4-Moberly	Sec-48 Blk-11	T&P
Hughes	2-Hier	Sec-2	LAL
Tomchill	24-Newell	Sec-11 Blk-11	T&P
Zandt et al	1-Dodson	Sec-1	BAL
Big States	1-Spear Est.	Sec-1	BAL
Gibson-Gibson	1-Simpson	Sec-13 Blk-3	H&TC
Texas Cons	2-Reynolds	Sec-33 Blk-11	T&P
Slicker et al	4-Mathews	Sec-58	ET
Earl	9-Mathews	Sec-32	ET
Earl	8-Mathews	Sec-32	ET
Engle Bros.	4-Mathews	Sec-32	ET
Stephens County			
Texas	12-Black Bros.	Sec-2058	TE&L
Texas	A46	Sec-3372	TE&L
Poer-Ward	4-Horton	Sec-1218	TE&L
Tripplehorn Bros.	1-Hanby	.....	Thompson
Lone Star	2-Henry	Sec-53 Blk-7	T&P
Throckmorton County			
Hays-Hodges	2-Mathews	Sec-233	ET
Harlon et al	1-Hughes	Sec-902	TE&L
Woodson	4-Overcawh	Sec-960	ET
Van Zandt County			
Pure	1-Jarmon	.....	County School Land.
NORTH TEXAS			
Archer County			
Wallace	4-Kemp-Kell	Blk-6	SP
Young et al	1-Taylor	Sec-1	SP
Pace	1-Taylor	Sec-17 Blk-3	ATNCL
Standifaith et al	1-Wilson	Abst.-645	Harrets
Williams et al	2-Kunkel	Blk-4	McCoy
Gilliland-Rosser	1-Donnell	Blk-14	Crawford
King-Carlett-White	1-Wilson	Blk-975	Geraldine
Bridwell	1-Turbeville	Blk-34	Jefferson Co. Sch. Ld.
Cooke County			
Lloyd	4-Wheelock	.....	Underwood
Danciger	5-Huggins	.....	SP
Danciger	6-Huggins	.....	SP
Petroleum Prod	1-Price	.....	Moore
Associated	1-Alexander	Blk-19	Espenosa
Wichita County			
Sheldon et al	2-Whitenback	Blk-303	Waggoner Coloney
Blair	1-McClure	Sec-6	GC&SF
Golding-Cochran	10-Waggoner	Blk-22	George
Rose	1-Munger	Sec-24 Blk-10	KWVFL
Hamilton et al	1-Emmert	.....	Anglin
Wilbarger County			
Hoover Scientific Dev.	C1-Waggoner	Sec-32 Blk-4	H&TC
Staley-Wynne	G13-Waggoner	Sec-32 Blk-4	H&TC
Waggoner	J10-Waggoner	Sec-25 Blk-4	H&TC
Grayback Dev	-Waggoner	Sec-50 Blk-2	H&TC
Hines-Cons.	1-Waggoner	Sec-49 Blk-4	H&TC
Barkley-Meadows	C11-Waggoner	Sec-5 Blk-5	H&TC
Young County			
Richardson-Dresser	2-Dean	Blk-19	YCSL
Wise-Jackson	1-Cullers	.....	Hyatt
Wooten-Reed	1-Stratton	.....	Sallie
Ryan-Stastry et al.	1-Johnson	Blk-7	Sergeant
Rannell	9-Jack	Blk-23	YCSL
Stafford	2-Brown	Sec-290	TE&L
Hawkins	5-Owens	.....	BBB&C
Parks-Beavers	1-Johnson	Blk-3	Sergeant
United Royalty-Franklin	4-Carpenter	.....	Sergeant
Carpenter	9-Barrett	.....	Sergeant
Trinity et al	1-Barrett	.....	Sergeant
PANHANDLE			
Carson County			
Phillips	1-Jordan	Sec-114 Blk-4	I&GN
Empire	19-Burnett	Sec-89 Blk-5	I&GN
Gulf Prod.	4-Cooper	Sec-5 Blk-9	I&GN
Donley County			
Southland	1-Lewis	Sec-3 Blk-29	H&GN
Gray County			
Phillips	6-Jackson	Sec-88 Blk-B-2	H&GN
Wilcox	32-Wilcox et al.	Sec-61 Blk-3	I&GN
Gulf Prod.	3-Worley	Sec-36 Blk-3	I&GN
Gulf Prod.	2-Worley	Sec-36 Blk-3	I&GN
Humble	3-Jackson	Sec-90 Blk-B-2	H&GN
Danciger	1-McLarty	Sec-10 Blk-1	ACH&B
Potter County			
Canadian River	1-Allison	Sec-1	Palmer
Wheeler County			
Anderson et al	1-Cuddeback	Sec-18 Blk-24	H&GN
WEST TEXAS			
Andrews County			
Deep Rock	1-Ogden	Sec-6 Blk-A46	PSL
Crane County			
Tidal	10-Univ.	Sec-47 Blk-30	Univ.
Simms-Atlantic	10-Univ.	Sec-39 Blk-30	Univ.
Fisher County			
Cranfill-Reynolds	1-Texas Cement & Plaster Co.	Sec-10	English
Howard County			
Word	11-Roberts	Sec-137 Blk-29	W&NW
Irion County			
Cromwell et al	1-Tankersley	Sec-1219	TC
Loving County			
Humble	1-Morgan	Sec-35 Blk-55	T&P
Pecos County			
California	1-Univ.	Sec-12 Blk-18	Univ.
Reagan County			
Skelly	4-Grayson	Sec-33 Blk-8	Univ.
Upton County			
Humble	12-Ricker	Sec-5	Denton

Completions in Texas, Week Ended August 31, 1929

NORTH CENTRAL & EAST CENTRAL

Anderson County

Company	Well Farm	Survey	Sec. & Blk.	Depth	Init. Prod.
Humble	1-Beard	Trimmer		T.D. 3820	Dry
Cont.-Cullum	1-Knight	Poitevant		T.D. 1352	Dry
Pace	1-Riley Est.	Palo Pinto Co. Sch. Ld.	Sec-1	T.D. 2005	Dry
Pandem	1-Thomas	Thomas	Blk-4	T.D. 1400	Dry
Ruff et al	1-Richardson	McCoy	Blk-11	T.D. 1187	Dry
Stumpf et al	1-White	ATNCL	Sec-41 Blk-3	T.D. 1712	Dry
Underwood Drlg	5-Andrews	TE&L	Sec-1805	T.D. 1008	Dry
Continental	2-Richardson	McCoy	Blk-11	T.D. 1186	Dry
Josey et al	6-Prideaux	Dorsey	Blk-24	T.D. 663	Dry

Brown County

Bowers	1-Canon	ET	Blk-5	T.D. 2082	Dry
Humble	4-Teverson	HT&B	Sec-11 Blk-1	T.D. 1006	Dry
Lloyd	22-Collier	Smith	Blk-139	T.D. 456	Dry
Owens Inc. et al	1-George	George		T.D. 1340	Dry
Sinclair	1-George	Allen et al.	Sec-32	T.D. 1636	Dry
Superior et al	1-Brook	Padillo	Blk-645	T.D. 3585	Dry
Young Bros. et al.	10-Kilgore	McClure	Blk-152	T.D. 1601	Dry
Cranfill-Reynolds	1-Barkley	McGee	Sec-3 Blk-649	T.D. 1675	Dry
Buder	10-Cross	Keeney	Blk-624	1124-1133	60
Greene	2-McCulley	Thom	Blk-53	717-747	1M
Smith	2-George	Chaddick		1294-1311	250
Texas	1-Kesler	Kesler	Sec-42	1282-1303	377

Callahan County

Moutray	1-Owens	BOA	Sec-80	450-466	.3M
Woodley	1-Finley	BOA	Sec-73	447-450	½M
Bradstreet-Holden	5-Cavanaugh	Comal Co. Sch. Ld.	Sec-98	1657-1677	30
Davis	6-Johnson	BOA	Sec-21	539-545	10M
Humphries Bros.	10-Gary	D&DA	Sec-40	420-424	10
Moutray	46-Hickman	BBB&C	Sec-149	T.D. 707	5
Humble	1-Dyer	ET	Sec-22	T.D. 1121	Dry
Amerada	1-Owens	D&DA	Sec-19	T.D. 460	Dry
Moutray	22-Hatchett	D&DA	Sec-30	T.D. 390	Dry

Coleman County

Anzac et al	1-McAdams	Frazier	Blk-244	T.D. 1110	Dry
Eastland et al	4-Kenney	Cochran	Blk-269	T.D. 2145	Dry
Gutzman-Aldrick	1-Powell	Little	Blk-40	T.D. 1404	Dry
Owens Inc. et al	1-Brunke	ET	Sec-100	T.D. 680	Dry
Taylor-Link	1-Williamson	ET	Sec-105	T.D. 730	Dry
Owens Inc et al	1-Kenney	Woods	Blk-483	T.D. 2003	Dry
Continental	13-Overall	Barkley	Blk-701	2117-2125	264
Eastland et al	5-Kenney	Cochran	Blk-269	2014-2022	675
Midwest Explor	3-Kenney	Cochran	Blk-269	2021-2022	495
Simpson-White-Pinkerton	2-Shumacker	Martinez	Sec-6 Blk-751	2219-2228	1M
Taylor-Link	2-Barker	ET	Sec-105	722-724	8

Comanche County

Morton et al	1-White	Hoxey		T.D. 680	Dry

Eastland County

Hopkins	1-Pippin	TE&L	Sec-3171	T.D. 1033	Dry
Lone Star	1-Alles Est.	Howell	Blk-3	1036-1051	3-3/5M
Tex-Wa & Kirk	1-Murrell	H&TC	Sec-29 Blk-2	1324-1339	38
Tex-Wa & Kirk	3-Turner	H&TC	Sec-30 Blk-2	1298-1324	96

Guadalupe County

Penn	1-Manford	Hodges		T.D. 2418	4000

Jack County

FHE Oil Co	4-Box	Hughson		3063-3082	218
Harper et al	3-Box	Hughson		3088-3115	464
Panhandle	1-Box	Hughson		3065-3120	75
Panhandle	2-McKelvey	Hughson		2919-2944	30
Panhandle	3-Smith	Hughson		3086-3090	115
Harper et al	4-Box	Hughson		3122-3147	460

Jones County

McGinley	1-Whitmore	BBB&C	Sec-39	T.D. 2801	Dry

Navarro County

Riverland	2-Finch	Wickson		T.D. 2930	Dry

Shackleford County

Sedgwick-Webb et al.	Newell	ET	Sec-115	T.D. 1692	Dry
Tannehill	23-Newell	T&P	Sec-11 Blk-11	T.D. 954	Dry
Johnson	1-Moberly	T&P	Sec-58 Blk-11	T.D. 1072	Dry
Zoch et al	1-King	ET	Sec-215	T.D. 2002	Dry
Callahan et al	8-Nail	ET	Sec-150	1529-1550	10
Tannehill et al	6-Mathews	ET	Sec-27	1162-1165	50
Roeser-Pendleton	7A88-Cook	ET	Sec-88	1376-1391	102
Roeser-Pendleton	46A61-Cook	ET	Sec-61	1285-1286	40
Simms	4-Lones	T&P	Sec-64 Blk-11	789-800	23
Simms	5-Lones	T&P	Sec-64 Blk-11	782-793	48
Simms	6-Lones	T&P	Sec-64 Blk-11	797-807	50
Big States	9-Russ-Webb	T&L	Sec-17 Blk-11	795-797	40

Stephens County

Texas-Louisiana	1-Hefley	T&P	Sec-68 Blk-6	1928-1975	¼M
Fitzer-West	1-Pratt	TE&L	Sec-1021	T.D. 3342	Dry

NORTH TEXAS

Archer County

Atlantic-Johnston	2-Prideaux	TE&L	Sec-1860	729-733	5
Bridwell	2-Falls Co. Sch. Ld.	FCSL	Blk-8	1120-1140	27
Burns	1-Wilson	ATNCL	Sec-114	1308-1314	6
Continental	3-Logan	Armes		1124-1130	2½
Gwynn	5-Thompson	ATNCL	Sec-20 Blk-16	1574-1590	110
Kemrow	8-Campbell	DCSL	League-3	700-709	5
Rathke	2-Parrish	SP	Sec-2	1588-1598	8

Clay County

Merrick-Belcher	1-Landrum	Parker Co. Sch. Ld.	Blk-5	T.D. 1795	Dry

Cooke County

Humble	4-Poteet	Stephens		1451-1525	700
Hooser et al	1-Deering	Hamilton		T.D. 2519	Dry
Petroleum Prod	1-Gregor	Marshall Univ.		T.D. 1875	Dry

Wichita County

Gulf Prod	20-Jennings	HT&B	Sec-12	T.D. 1935	Dry
Hammon	1-Munger	KWVFL	Sec-24 Blk-9	T.D. 1795	Dry
Howell-Sommers	1-Hirschi	Cowan		T.D. 5283	Dry
King	1-Key et al.	Lewis	Blk-12	T.D. 1557	Dry
Golding-Cochran	9-Waggoner	George	Blk-22	1304-1308	65
Riner-Bailey	9-Michie	Netherly		1783-1789	20

Wilbarger County

Clark et al	3-Waggoner	H&TC	Sec-25 Blk-4	1928-1933	75
Golding-Cochran	1-Waggoner	H&TC	Sec-4 Blk-17	1928-1937	35
Staley-Wynne	E1-Waggoner	H&TC	Sec-23 Blk-4	1851-1866	155
Staley-Wynne	G6-Waggoner	H&TC	Sec-32 Blk-4	2289-2290	145
Shappel	1-Smith	H&TC	Sec-18 Blk-14	T.D. 3178	Dry
Grayback Dev	5-Waggoner	MEP&P	Sec-40	T.D. 1900	Dry
Phillips	MM6-Waggoner	H&TC	Sec-30 Blk-4	T.D. 2579	Dry

Young County

Jacob	1-Hockaday	Upham		T.D. 3800	Dry
Simms	2-Willis	TE&L	Sec-2047	T.D. 4360	Dry
Robertson Drlg	1-Jones	Sallie		T.D. 628	Dry
United Royalties-Franklin	3-Carpenter	Sergeant		T.D. 665	Dry
Wise-Jackson	1-McDonald	CT		T.D. 604	Dry
Camp et al	1-Campbell	TE&L	Sec-1484	T.D. 971	Dry
Richardson-Dresser	1-Dean	YCSL	Blk-19	542-550	10
Carpenter	5-Barrett	Sergeant		594-632	50
Parks et al	5-Carpenter	Sergeant		574-629	44
Rannell	3-Jack	YCSL	Blk-23	535-560	5

PANHANDLE

Carson County

Empire	2-Fuqua	AB&M	Sec-19 Blk-3	2715-2736	41M
Ryan Cons	4-Black	I&GN	Sec-111 Blk-4	3028-3031	120

Gray County

Shamrock et al	2-Chapman	H&GN	Sec-50 Blk-25	2772-2780	100
Texas	1-Jackson	H&GN	Sec-60 Blk-B-2	3735-3253	3M
Texas	6-McLarty et al.	ACH&B	Sec-2 Blk-1	2799-2800	31M
Texas	1-Archer	I&GN	Sec-174 Blk-3	3175-3297	37
Champlin	1-Jackson	H&GN	Sec-60 Blk-B-2	T.D. 3010	35
Wilcox	8-Wilcox et al.	I&GN	Sec-60 Blk-3	2965-2974	250
McMann	1-Jackson	H&GN	Sec-90 Blk-B-2	2845-3000	2380
Texas	14-Bowers	H&GN	Sec-89 Blk-B-2	3075-3085	1573
Phillips	6-Jackson	H&GN	Sec-88 Blk-B-2	2980-2985	1420
Gulf Prod	3-Jackson	H&GN	Sec-62 Blk-B-2	2949-2951	1090
Humble	2-Jackson	H&GN	Sec-90 Blk-B-2	2925-2974	350
Magnolia	6-Bowers	H&GN	Sec-63 Blk-B-2	3090-3100	350
Sun	3-Purviance	H&GN	Sec-61 Blk-B-2	2935-2970	455
Texas	10-Bowers	H&GN	Sec-89 Blk-B-2	2900-2960	1250
Texas	5-Patton	H&GN	Sec-61 Blk-B-2	2951-2955	280
Champlin	2-McLaughlin	H&GN	Sec-33 Blk-B-2	2918-2930	950
McMan	2-Palmer	H&GN	Sec-31 Blk-B-2	2932-2939	1522
Phillips	4-Palmer	H&GN	Sec-31 Blk-B-2	2783-2855	20,600
Crabtree Drlg	1-Talley	BS&F	Sec-114 Blk-M-2	T.D. 2740	Dry
Purple Sage	2-Johnson	GCSF	Sec-1	T.D. 3018	Dry
Shell	3-McConnell	I&GN	Sec-174 Blk-3	T.D. 3535	Dry

Hutchinson County

Hines et al	1-Cockrell	BS&F	Sec-3 Blk-23	3058-3065	52

Moore County

Amarillo	2-Warrick	H&TC	Sec-92 Blk-46	3189-3260	60M

Wheeler County

Gillispie et al	1-McMoutry	H&GN	Sec-67 Blk-17	2349-2447	12M
Lone Star	2-Griswold	H&GN	Sec-1 Blk-24	1835-1865	51M

WEST TEXAS

Crane County

Duffey-Skelly	1-Univ.	Univ.	Sec-45 Blk-30	2810-2949	248

Crockett County

Moncrief et al	1-Andrews	GCSF	Sec-57 Blk-UV	T.D. 1540	Dry

Glasscock County

California	1-Turner	T&P	Sec-45 Blk-33	T.D. 1534	Dry
A. F. Oil Co	1-Turner	T&P	Sec-19 Blk-33	T.D. 2507	Dry

Howard County

Sweeney et al	4-Chalk	W&NW	Sec-124 Blk-29	1717-1747	93

Loving County

Lockhart	1-Wheat	H&TC	Sec-85 Blk-33	4152-4156	8
Lockhart	2-Bowen et al.	W&NW	Sec-92 Blk-1	4181-4233	604

Mitchell County

California	7-Foster Lse.	T&P	Sec-6 Blk-29	2705-2825	90
Alexander et al	1-Elwood	SP	Sec-4 Blk-18	T.D. 600	Dry
California	1-Handley	T&P	Sec-1 Blk-28	T.D. 3284	Dry
Simms	1-Elwood	SP	Sec-29 Blk-18	T.D. 4725	Dry
West Hyde Invest	1-Elwood	SP	Sec-38 Blk-16	T.D. 3216	Dry

Pecos County

Independent	1-Rayburn	H&GN	Sec-23 Blk-10	T.D. 1971	Dry
Shell	4-Smith	TC	Sec-24 Blk-194	1725-1837	26
California	4-Smith Lse No. 2	TC	Sec-26 Blk-194	1550-1569	25
Mid-Kans & Transc.	2-Yates	I&GN	Sec-59 Blk-1	1240-1245	712 (1 Hr.)
Humble	7-Smith	TC	Sec-101	1313-1435	39 (1 Hr.)
Shell	10-Smith	TC	Sec-27 Blk-194	1535-1568	135
Humble	6-Smith	TC	Sec-101	1567-1688	62 (1 Hr.)

Presidio County

Brite	3-Brite	GH&SA	Sec-51 Blk-12	T.D. 1120	Dry

Reagan County

Big Lake	160-Univ.	Univ.	Sec-2 Blk-2	3055-3078	150
Big Lake	161-Univ.	Univ.	Sec-1 Blk-2	2986-2996	300
Big Lake	162-Univ.	Univ.	Sec-36 Blk-1	3110-3179 P. B. 3113	5
Big Lake	163-Univ.	Univ.	Sec-1 Blk-2	2353-2447	125
Big Lake	164-Univ.	Univ.	Sec-12 Blk-2	2868-2875	250
Big Lake	165-Univ.	Univ.	Sec-12 Blk-2	2877-2891	300

Ward County

Atlantic-Delmar	3-Hazlett	H&TC	Sec-17 Blk-5	2468-2500	154
Gulf Prod	2-Wristen	H&TC	Sec-18 Blk-5	2417-2482	115

Winkler County

Gulf Prod	1-Clapp	PSL	Sec-37 Blk-26	2632-2637	47M
Southern Crude	T88U10-Hendricks	PSL	Sec-41 Blk-26	2825-2850	600

Yoakum County

Weekley	1-Tannahill	Gibson	Sec-791	T.D. 4500	Dry

Enormous Gas Reserves of Panhandle Continue to Attract Capital

By William F. Lowe
N. P. N. STAFF WRITER

TULSA, Aug. 30

THE recent announcement of a new gas line from the Texas Panhandle has again called attention to the enormous potential supply of that area. Already there are six large pipe lines carrying Panhandle gas away from the great plains territory, three of which serve southern cities in the same state while the others have their connections in Colorado, New Mexico, Kansas, Oklahoma and Missouri. And now Iowa, Nebraska, and possibly Illinois, are to be added to the growing list of states receiving fuel and light from the Texas Panhandle.

When operating at full capacity, all the above pipelines could deliver approximately 400,000,000 cubic feet of gas per day, though it is doubtful if this peak load will be reached except during the cold spells of the winter. Their average daily load throughout the year will probably not exceed 60 per cent of their capacity, or 240,000,000 cubic feet. This figure however, is sufficiently large to raise the question as to how long the supply can last at such a withdrawal rate.

The answer to this query has occupied the minds of experts on several occasions and none agree, though an average of their estimates is around 20 years, provided the waste curve shows a decline.

All of these estimates are contingent upon so many variable factors that they can be little more than reasonable conjecture, but they are the only available method of determining the gas supply. The first estimate of the recoverable reserve was made in the fall of 1927, by C. Max Bauer, chief geologist of the Midwest Exploration Co., at Amarillo Texas.

Mr. Bauer drew his conclusions after estimating the extent of the gas area, the average thickness and porosity of gas pays, and considering the known rock pressure. His figure for the original content of recoverable gas in the Panhandle was 4,500 billion cubic feet. This figure however, was based on but a 50 per cent recovery and gas engineers agree that 80 per cent is more likely to be correct. Estimates that have been made since have varied widely in their conclusions though all have used practically the same method outlined originally by Mr. Bauer.

Along the main anticlinal structure of the Panhandle there are said to be slightly over one million acres of gas territory, in which gas wells of from 10 to 20 milion cubic feet per day capacity may be drilled. The mean of the estimates of the original recoverable content of this gas area, based on 80 per cent recovery, is approximately 9,800 billion cubic feet.

From this figure must be subtracted 520 billion cubic feet, the amount estimated as having been wasted in the drilling of the 1638 wells that are producing oil, gas or both. It is very probable that 500 billion more has been produced with the oil and that 100 billion has been used as fuel. The remaining reserve then would be 8,680 billion cubic feet.

The 47 natural gasoline plants now operating in the Panhandle are consuming 785,000,000 cubic feet per day, though with several new plants proposed, the figure may eventually reach one billion per day. This withdrawal, added to that of the pipelines makes an approximate total of 1,035,000,000 cubic feet that is now being taken daily from the great gas reservoir.

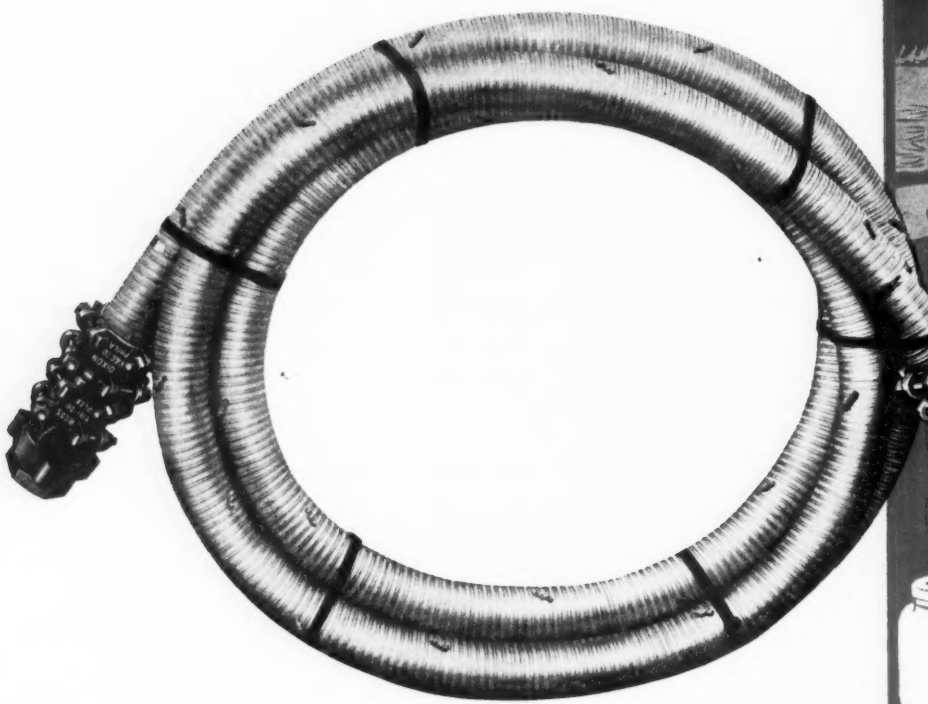
In this total, only those figures that may be closely approximated are used, with no attempt being made to include the present waste, which is probably considerable. At the above rate the recoverable reserve would be entirely depleted in 23 years.

The proposed new line is to be jointly owned by the Phillips Petroleum Co., The Texas Co., the Skelly Oil Co., and the Columbia Carbon Co. These companies are already owners

Map showing distribution of Panhandle gas

GOODALL
SEMI-METALLIC ROTARY HOSE

"STANDS UP UNDER SEVERE PUNISHMENT"



The extra pumping pressure of deep well drilling is making an ever increasing demand for rotary hose durability. The tough resilient tube of Goodall Semi-Metallic Rotary Hose resists the ravages of slush mud and sharp sands; the patented ball-joint armour completely encasing the tube protects every part against outside abrasive wear and inside high pressures.

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of large blocks of acreage in the area and from the wells they have already drilled could probably supply their new line temporarily with all the gas it needs. Little has been done in the way of starting operations beyond the preliminary survey, and no details of construction have been given out.

The principal cities to be served by the line are Council Bluffs, Omaha, and possibly Chicago. In the event all three cities are included and enough commercial contracts closed to make the venture feasible, it would be necessary to lay two lines, for the area around the first two cities could use all one line could carry. There could be but few connections along a line laid to such a market as Chicago offers, and they would have to be small if the larger city was to receive a real supply.

A project of this magnitude will require the expenditure of at least $50,000,000 and to justify such an investment a fairly rapid return must be assured. This return can be obtained only by the transportation of a maximum amount of gas. So it is reasonable to suppose that the new line will be large enough to carry a daily average of at least 150,000,000 cubic feet.

Other gas lines obtaining their supply in the Panhandle, with their size, length and approximate capacity, are shown on the accompanying map. These lines are connected to but 112 gas wells, the total initial production of which was 3,254,166,000 cubic feet. That so few wells can supply the demands of the pipe lines is due as much to the method of drilling and spacing as to the average well initial, which is 29,000,000 cubic feet per day.

Wells drilled expressly for the gas lines are usually spaced four to a section, though the Empire Gas and Fuel Co., on one of their reserves, the 65,000-acre Burnett Ranch, has not yet drilled more than one to a section. The wells are drawn on up to 7 per cent of their open flow capacity as occasion demands, which is considerably below the limits set by the state commission. This is good business, for it helps to maintain the rock pressure, and is a move in the interests of conservation.

The following table is of interest as it illustrates the extent of the drilling activities of the gas companies in the strictly gas territory.

COMPANY	NO. WELLS CONNECTED TO LINES	INITIAL PRODUCTION
Canadian River Gas (Prairie)	26	771,666,000 cu. ft.
Consolidated Gas Utilities	6	276,500,000 cu. ft.
Empire Pipe Line	34	1,020,000,000 cu. ft.
Lone Star Gas Co	31	793,000,000 cu. ft.
North Texas Utilities (Upham)	14	323,000,000 cu. ft.
West Texas Gas	1	70,000,000 cu. ft.
Total	112	3,254,166,000 cu. ft.

The gases of the Panhandle are being carried further and further from their source every year, but there is one gas found in the area that does not have to depend on pipe lines for its transporting medium, and that is helium. It is found in the gas of a small dome in central Potter county in quantity of 1.6 per cent by volume. This percentage is high, there being but two other places in the world where it is slightly higher, and the government has purchased all the leases from the Prairie Oil & Gas Co. in order to be assured of an adequate supply for its large plant near Amarillo.

Helium from this plant will be the lifting force used in the new dirigibles now being built for the navy. Slightly heavier than the hydrogen used in the Graf Zeppelin, it makes up for its lower lifting power in the reduced fire hazard and the smoking lamp can be lighted at the usual intervals. The helium bearing area is one of the few places in the Panhandle where waste is not an ever present spectre.

Gas will be the means by which many oil leases, that would otherwise show large deficits, will pay out. Yet it has been treated like an unwanted child. With few exceptions, the largest investments in the Panhandle, as represented by the major operators, would never be on the right side of the ledger if their income was solely derived from oil. These same companies have invested in gas lines, and gas lines, if properly handled, will make up for some of the eccentricities of production that are so common in this field.

Sinclair-Prairie Again Reported Merging

CLEVELAND, Aug. 30.—Important stockholding groups in the Sinclair Consolidated Oil Corp. and the Prairie Oil & Gas Co. have virtually reached an understanding as to a basis for the consolidation of the two corporations, the New York Times said Aug. 23.

According to the Times, Harry F. Sinclair will retire from Sinclair about the time the merger is completed. Says the Times in part:

"Influential financial interests hold large blocks of stock of both Sinclair and Prairie, so that the consolidation, it is believed, will be made comparatively easy. Persons acquainted with the negotiations that have taken place between these stockholding interests said yesterday that no contract for a merger had been entered into, but that an understanding had been arrived at. This understanding was described as a 'gentleman's agreement' which can be made operative whenever it is felt that the time is propitious to put the two companies together.

"Mr. Sinclair, it is understood, is in full sympathy with the plan to consolidate the companies. He is no longer the controlling factor in Sinclair, although he has the confidence of the company's stockholders, as was indicated by his re-election earlier in the year as a director and by his subsequent re-election to the chairmanship. The directors of the company insisted, following his conviction on the contempt charge, that he remain as chairman of the company.

"The combined company, it is expected, will retain the name Prairie Oil and Gas. It will rank as one of the largest petroleum companies in the country and will rival in size the Standard of Indiana, whose principal competitor it will be in the Middle West."

An official of the Sinclair corporation was quoted as saying:

"These reports of our being absorbed or absorbing someone else appear to be getting pretty well mixed up," he continued. "Today the Prairie is supposed to be taking us over; last week the report was that The Texas Corp. was to take us over as of Sept. 15; then we are supposed to have sold our pipe line and crude purchasing interest to Standard Oil of Indiana.

"We can't be going all directions at one time, that is obvious. Meanwhile, we are trying to go along and conduct our business in the best way we know how."

At Washington, Harry F. Sinclair issued this statement to the Wall Street Journal through a friend:

"I assume that the basis for rumors regarding the consolidation of Sinclair Consolidated Oil Corp. and Prairie Oil & Gas Co. is that engineers are now surveying the properties of both companies for valuation purposes. There are many obstacles to be overcome before any merger or purchase can take place. Properties valued at $600 000.000. owned by 50,000 stockholders, are not usually disposed of by a 'gentleman's agreements' or without the consent of the owners.

"Meanwhile it would be interesting to know who or what interest feels qualified to place in circulation accounts, on unnamed authority, of matters which at most are merely in the stage of preliminary discussion. All that can positively be said now is that if a purchase or merger takes place it will not be by absorption of Sinclair by any other company and that I have no intention of retiring from the oil business."

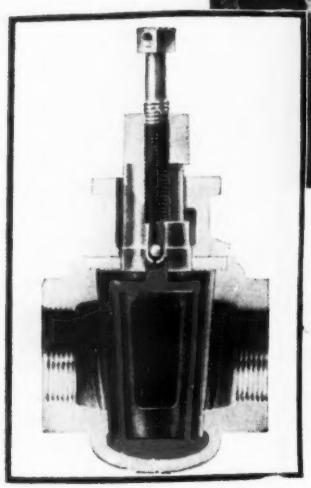
MERCO

Always easy to turn. A pipe line walker turning a gear-operated 10", 500-lb. Nordstrom Valve with one hand.

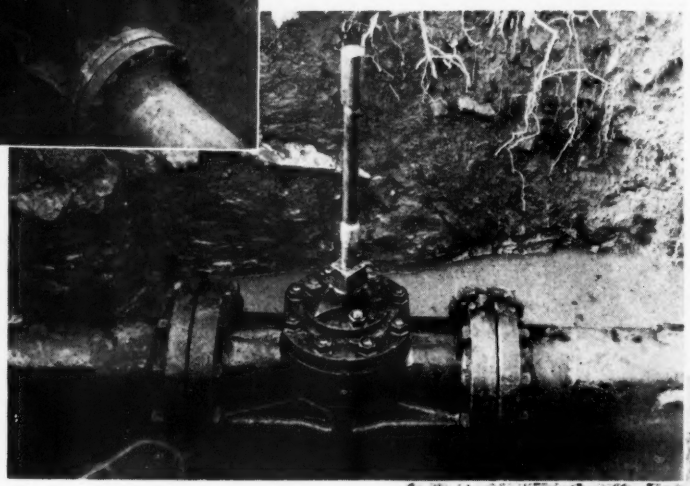
Sealed AGAINST LEAKS

EASY TO TURN

LUBRICATED BY HYDRAULIC PRESSURE



At right. An 8-inch wrench-operated 500-lb. Nordstrom "Venturi" Valve with low head extension. A compact, leak-resistant, easily operated valve.



Below. A 2" screw and 500-lb. Nordstrom Valve in service. Note water in top of valve which proves there is no leakage through the valve.

Nordstrom Valves are leak-resistant because hydraulic pressure, up to 2000 pounds per square inch, forces lubricant around and under the tapered plug, preventing leaks and entry of foreign matter.

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Our special lubricants play an important part in the application of Nordstrom Valves to the many services of these valves in the Petroleum Industry. "Merco" Lubricants are manufactured in convenient stick form and can be stocked without fear of deterioration.

Nordstrom Valves

Tension the Test of Transmission Of Power in Belting Usage

By Paul Wagner
N. P. N. STAFF WRITER

HOUSTON, Aug. 30

FOR a belt to transmit power there must be more tension on one side of it than the other, in the experience of W. D. Langley, field foreman of the Rio Bravo Oil Co., in the Luling district. Therefore, he submits, the effective tension measured in the work done by a belt is the difference between the tension in the tight strand and the slack strand.

For example, if a belt is suspended over a pulley which is free to rotate, with a 66-pound weight on one end and an 11-pound weight on the other end of the belt it would be moved over the pulley by the difference of the two weights, viz., 66 minus 11, or 55 pounds. The 55 pounds is the actual weight turning the pulley and constitutes the effective tension.

"Instead of using a belt suspended over a pulley with weights hung on each end," he says, "let's see what happens in the case of an actual belt drive. The driving pulley when turning, winds one side of the belt onto the pulley with a given pull and unwinds the other side of the belt onto the driven pulley.

"The difference between the tension in the tight strand and the other strand being unwound onto the driven pulley is the effective tension which is transmitting a pull to the rim of the driven pulley, thereby transmitting power mechanically from one pulley to another.

"The better the surface of the belt can grit the face of the pulley the greater the belt's capacity to transmit power without slipping. It is evident that a belt with a good gripping surface is most desirable, because it produces the lowest possible tension on the bearings and, consequently, lowers friction losses. This factor should be given due consideration in tests of different type belts."

To assure long life, Mr. Langley finds it advisable to make the belt no tighter than necessary to carry its load without slipping. If the installation is too tight, he says, the shaft bearings will heat and the life of the belt will be shortened. His experience is that it is not wise to install a belt with the idea that it will never be necessary to cut and shorten it. He feels it is better practice to take out the stretch gradually.

Mr. Langley's rules for the care of belts follow:

Always use a square in cutting and laying out bolt holes; and make the holes for clamps in all belts with a punch one-sixteenth of an inch smaller than the bolt.

When installing new belts, clamps should be used invariably. Where this is done, in order to have proper tension, belts of three, four and five ply should be cut shy five thirty-seconds of an inch per foot to the measure length around the pulleys; six, seven and eight ply should be cut one-eight of an inch.

Use belt stretchers when applying clamps. Under no circumstances should a new belt be roped to the pulley and pulled on by power. This treatment often starts a rupture or tear in the body of the belt, afterward resulting in its destruction.

The seam side of a belt should not be placed next to the pulleys. Pulleys should be as large as conditions allow, should be in line and their shafts parallel and level. Whenever possible the lower side should be the tight or pulling side of a belt. The evident reason for this is that the weights of the belts may be considered to a certain extent as a tightener, adding to the arc of contact and decreasing the liability of slippage.

When the top is the tight or pulling side of a belt the weight of the lower side decreases the arc of contact to the same extent. Therefore, when the tight side is on top the belt used should be at least 15 per cent larger than otherwise would be necessary to allow for the loss in the arc of contact.

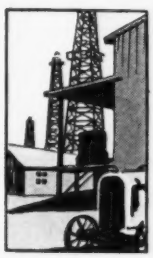
The first few days of service are usually most critical in the life of a belt. In this period, a belt should be frequently inspected and if it has stretched from overload or accident it should be taken up. When the belt is first placed on the pulley it may be rubbed with a cloth moistened with castor oil to remove the soapstone and bloom which tends to make new belts slip.

Open quarter-turn belts should be avoided whenever possible, because they can be a constant source of trouble unless very liberal allowances are made when laid out. A quarter-turn belt, particularly a wide one on an open drive, can absorb more power than most persons realize.

In the open quarter-turn drive the tight strand is being pulled off the driven pulley at an angle from the center line of the pulley face. This "wiping off," as it is called, absorbs considerable power. It can be largely corrected by the installation of an idler on the slack side of the belt near the large pulley, in case one pulley is small. If both the driving and driven pulleys are large two idlers should be placed on the slack side of the belt, one near each pulley.

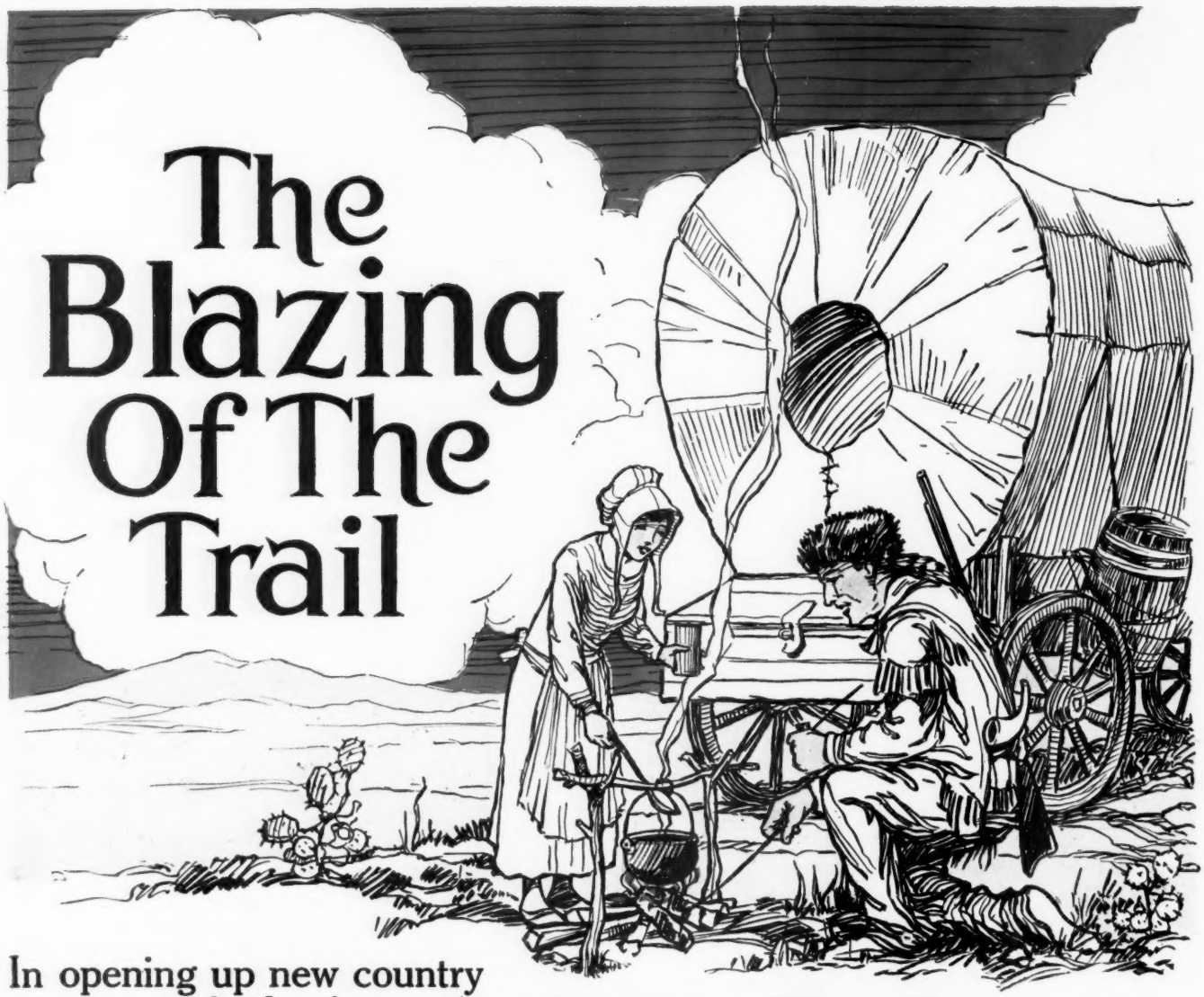
The necessity of using belt dressing is, in most cases, caused either by the belt being too loose, or the load too great, or defective design of the drive.

Mr. Langley considers belt dressings an evil and only a temporary expedient to help over a hard place. He has found they are not ordinarily necessary. Only in cases where the pulley must be kept moving continuously will he use them. Then a belt dressing of vegetable oil may be used sparingly. He cautions against belt dressings containing animal or mineral oil, or grease or resin, for rubber material.



In some cases he has found it advisable to cover the surface of the smaller pulley with rubber lagging or to use a paper pulley in belt operations. Pulley lagging, however, must be kept in good condition and renewed when it becomes rough or worn out, otherwise it will injure the belt. It is also necessary to watch lagging rivets which will cut the belt.

Dust and other substances in the air settle on belts and pulleys, causing slippage. Attempts to remedy this are often made by applying oily or greasy dressing, which temporarily reduces the slip but soon combines with the flying particles, building up hard patches and streaks. Such lumps not only increase slippage, but cause unequal strains in the body of the belt, ultimately bringing about destruction.



The Blazing Of The Trail

In opening up new country or new methods of manufacturing practice, the pioneers bear the brunt of blazing the trail, overcome dangers and make the way safe.

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Standardization of Markings on Valves And Fittings Needed by Industry

By H. D. Patridge*

THE accompanying discussion of the need of the petroleum industry for valves and fittings was read by Mr. Patridge at the national convention of purchasing agents at Buffalo on June 5.

The subject was brought up for discussion in the industry a year ago at Tulsa when the oil company buyers' group of the National Association of Purchasing Agents met during the International Petroleum Exposition. At that time a representative of the valve manufacturers suggested that other lines of industry should be consulted as to their needs and that the standardization should not be strictly a petroleum industry project.

Mr. Patridge's paper is presented in part.

Editor.

IN TREATING the subject of the need of proper marking on valves and fittings, I should like to bring this to your attention from the practical and actual use of the material in question. All manufacturers mark, in some way, their product. These markings, in many instances handicap the buyer, store keeper, and user whether it is new, reclaimed or repaired material because of the lack of proper identification and information in these markings.

Investigation reveals different types of marking and information which they intend to convey: 1—Name of manufacturer; 2—Size; 3—Working pressure with proper identification whether SWP or OWG-WP; 4—Test pressure; 5—Standard, heavy and extra heavy malleable; 6—Standard, heavy and extra heavy cast iron; 7—Manufacturers list number. I would like to analyze these different types of symbols or markings a part of which are found on practically all valves and fittings.

1—Name of Manufacturer

The name of the maker without question should appear on each item manufactured, which would be mutual protection to the manufacturer as well as the user and without this no positive identification can be made.

2—Size

It has become more usual in the last few years for the manufacturer to show the size of the fitting in his casting and forging. This information is of material benefit to the user. There are still a number of manufacturers who do not show this information on their product.

Some question has been raised by a number of users with reference to showing the thread of the fitting but on the average run of fittings, I believe from my knowledge of foundry practice this would be a handicap to the manufacturer. In case of forged fittings, valves of high pressure, this information is being placed by some on their product with a steel stamp. I question the value of this particular marking with the possible exception in the use of a new valve or fitting.

3—Working Pressure

Working pressure is one of the most important phases of information and should be shown and definitely described whether OWG or SWP. I believe the general practice, at the present time, is to mark practically all brass fittings with the SWP wherein the OWG is now prevalent in the larger valves and fittings.

As there is no set method to my knowledge of determining the OWG where the SWP is given, this matter is largely a decision for the manufacturer to determine just what list he will give the OWG. I feel that some definite ratio for determining this matter should be established in this standardization, in the same manner in which I shall a little later treat the matter of figuring test pressure.

4—Test Pressure

The test pressure is very closely related to and governs the recommended working pressure. There has never been a standard method of determining what the test pressure should be to safely recommend a valve or fitting for a given working pressure. The general practice is to assume that the OWG-WP is one-half of the test, however investigation reveals that some manufacturers are recommending OWG-WP on a smaller safety factor than the one just mentioned.

The factor of safety is a matter of vital importance especially with reference to high pressure valves and fittings. It was not very many years ago that development of an oil property was managed on valves and fittings of standard 250 and with the 350 OWG-WP at deeper depths. In the use of air-gas lift plants the scope of pressure and tests has risen to an OWG 2000 pounds with test pressure of 3000 to 4000 pounds.

The seriousness of this topic will be readily realized by the operating company at such time in the future when it is necessary to dismantle and move or reclaim for warehouse stock, valves and fittings used in this high pressure work. Several accidents in air-gas lift plants in the Seminole district have been attributed to use of fittings of improper specifications. Could we not assume in the use of large quantities of fittings that some were reclaimed material and were without proper and adequate identification marks?

5—Malleable Fittings

In classifying this group as standard, heavy and extra heavy, it would appear that a much better classification and marking could be established. The user cannot determine the classification of these by the weight or thickness of the metal. Manufacturers vary in their castings in malleable as in cast iron. I should like to call your attention to the listing of heavy malleable fittings in the catalog of one of the large manufacturers. In the same catalog they list the heavy malleable fittings such as ells and tees for a higher SWP than the same company's listing of extra heavy malleables. While this is an exceptional case it is indeed very confusing.

6—Cast Iron Fittings

This same rule holds true with cast iron fittings classified as standard, heavy and extra heavy, consisting of ells and tees, etc., from the standpoint of the size and weight of these items. I further believe that it would be very beneficial to the user as a whole to mark fittings by symbols or letters designating whether cast or malleable iron. For example, a 250-pound SWP malleable tee is no heavier than a standard 125-pound SWP cast iron. Their general construction and appearance is practically identical and the only method the user has of distinguishing between them is the ring in the metal.

7—Manufacturers List Number

The showing of a series number of manufacturers number on valves and fittings is of little value especially

*Purchasing agent, Indian Territory Illuminating Oil Co.

New Operating Methods

An average of two articles per issue of National Petroleum News, have discussed new operating methods and solutions to problems facing operators in the oil fields.

What operators are doing to cut costs, new methods and ingenious devices for more efficient work, and other features, are included.

Here are 64 that have appeared since the first of the year for your file reference:

1929

Success of repressuring in Burbank discussed Aug. 21, p. 37
Pumping deep crooked wells discussed Aug. 21, p. 38
Valve travel in deep well pumping Aug. 14, p. 59
Sand testers check formation without string of casing Aug. 7, p. 65
Kettleman Hills develops science of deep well drilling July 31, p. 49
Economical operation of small wells July 31, p. 60
Clean-out methods in Tonkawa discussed July 24, p. 32
Warning bell rings when engine stops July 24, p. 61
Filling shot hole with gravel eliminates sand and cavings July 17, p. 69
Comments on Dr. Haseman's well spacing methods July 17, p. 74
Cementing to forestall well troubles July 10, p. 41
Larger oil strings for Kettleman Hills casing July 10, p. 39
Pure water requisite for mixing oil field concrete July 10, p. 58
Economies in small well production July 17, p. 64; July 10, p. 61
Oklahoma City pool has peculiar operating problems July 3, p. 36
Gas lift practice of 15 companies in Seminole une 26, p. 62; June 19, p. 57
Internal combustion engines drive rotary rig June 26, p. 43
Oil/water separator made of old casing June 19, p. 65
Old time bailing plan discarded at Bradford June 19, p. 70
Simplified method of gaging working barrels June 19, p. 40
Clamp lengthens life of oil field belts June 19, p. 66
Back pressure on pumping helpful June 19, p. 49
Oil well shooting practices discussed June 12, p. 40
Straight hole drilling in Seminole June 12, p. 56; June 5, p. 37
No economies in vacuum reduction in Glenn pool June 5, p. 59
Scientific well spacing for over production June 5, p. 63
Bradford water drive speeds as technique improves May 29, p. 50
Oil-water separator devised May 15, p. 68
Vertical holes possible only thru gravity May 15, p. 71
Oil mining in Alsace, Wietze, etc. May 15, p. 72
Formula method for well spacing & rate of production. May 8, p. 59
Automatic water supply for gas lift. May 1, p. 64
Home-made roller bearing stops rod kinking May 1, p. 66
Regulation of "beans" increases output May 1, p. 59
Inert gas as fire protection in concrete reservoirs. Apr. 24, p. 59
Oil field emulsions July 3, p. 53; May15 , p. 61 April 17, p. 59 March 27, p. 51
How to keep holes straight April 10, p. 63
Kansas experiments with rotary successful April 3, p. 63
A. P. I. studies crooked holes April 3, p. 29
Wells drilled straight slowly reach sand faster April 3, p. 51
Large savings from low-pressure separation of gas oil March 20, p. 200
Oil well reclaimed with home-made mudding outfit March 20, p. 212
Individual well record keeps leases profitable March 13, p. 59
Alcohol keeps gas lift lines open March 13, p. 66
Perfects method for breaking out air-lift wells March 6, p. 64
Automatic features on lease save money Feb. 20, p. 50
Cheaper lifting, better recovery sought in repressuring Feb. 13, p. 34
Operators to pay $50,000 for water disposal Feb. 13, p 68
Method for surveying hole deviation Feb. 13, p. 59
Cuts expense by removing mud from water Feb. 6, p. 55
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Pulsing air-gas cuts repressuring hazards Jan. 30, p. 60
Engineering makes faster drilling in Seminole Jan. 9, p. 62
Discusses drilling improvements Jan. 9. p. 67
Repressure equipment cost returned quickly by lease Jan. 2, p. 29
Barrel pumps save oil at drilling wells Jan. 2, p. 52
Generates own power in Little River Jan. 2, p. 52
Shale carrier removes heavy cuttings from rotary mud Jan. 2, p. 51

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National Petroleum News

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after the valve has reached its destination. This marking is prevalent in the larger valves and cast or forged steel fittings. With this type of marking, it is necessary to handle a number of catalogs to correctly inventory an oil property and to properly establish the value or classification of the fittings on this property.

You are more or less familiar with foundry practice and I am sure that the necessary change in patterns to give the desired information would not entail an appreciable amount of money. However in the forged fittings this problem could be easily handled upon the manufacture and replacement of new dies.

The use of metal tags attached to high pressure valves and fittings as now practiced by some manufacturers should be discouraged and not tolerated. By the use of these plates the purchaser could easily purchase material for one specification and receive material of another specification, whereas this error would not occur if the necessary information was stamped or cast in the product.

My attention was called sometime ago to a manufacturer who, in order to meet competition on his high pressure valve, raised his test pressure to a higher level from the so called two to one ratio without increasing in any way the dimension or specification of the valve. Should the standardization program of marking, constitute among other items, the OWG-WP and test pressure, figuring on a standard basis, this change could not be easily made. In the present manner of marking, however, the change was made by the revision of descriptive printed matter.

THIS information as a whole may seem useless to the buyer whose company has standardized on the products of one manufacturer and who has purchased this material since the forming of his company; however, a majority of the oil companies, to my knowledge, buy their valves and fittings on inquiry on certain specifications as this one company standardization, is not, at all times, practical.

With the salvaging of material purchased under these conditions which has been in use, these difficulties and the necessity of standardized markings would not be so prevalent. The user, usually referred to as the field man, has had no encouragement in years past to school himself on the proper method of ordering these commodities due to the different markings or in many instances the lack of markings. The information which he submits to his superintendent or purchasing department is many times very incomplete and indefinite. With his experience of handling properly marked fittings the manufacturer or

seller would be better equipped to properly fill his requirements.

In discussing this standardization program it would be well for us to not only consider the handicap to the petroleum industry but also to consider the requirements of other branches of industry such as the public utilities. Should the requirements of the petroleum industry be checked direct to the division of development and producing engineering of the American Petroleum Institute, I do not feel that the requirements of the public utilities division and other divisions would be given proper consideration. You are familiar with the methods and manner in which a problem of this nature would be handled by the API should the help of that organization be enlisted.

HOWEVER, if the Manufacturers Standardization Society will not give this question proper consideration within a reasonable length of time, I feel that the thing to do would be to enlist the aid of the API. It is natural to suspect that any plan which benefits the industry as a whole and which is somewhat adverse to a uniform idea affecting all manufacturers, would meet with the objection of the manufacturers with a claim of adding expense for carrying out of these ideas. * * *

The weight and design of a valve or a fitting in many instances is the determining factor in its selection by the user in the field. Especially is this true after it has been reclaimed and repaired. It would not be possible to standardize the design, thickness of metal and specification of this nature in this class of material. Each manufacturer builds a valve to conform to a design which meets his ideas, but these items are taken into consideration by the field man in selecting the valve if it is not properly marked.

Sometime ago it was my experience to order a number of valves of medium specification WP and upon receipt of this order the stores department complained that the valves were too light in construction and desired them returned and replaced by another make of valve. This is a case where design and weight were the only determining factors and as the valves showed no markings it was apparent to the field man that a mistake had been made in filling the order. The purchaser in this instance would have accepted these valves had they been properly marked with the company name, size, OWG-WP and test.

Assuming that you at all times as purchaser identify the material you buy in this particular unmarked commodity, it stands to good reasoning with the acceptance and use of this method by your operating department that the real test is its value to you after it has been reclaimed.

Large preheating furnace made of loose firebrick

Temporary Furnace Aids Welder Preheat Large Castings

THE preheating facilities necessary in any welding shop or department naturally depend upon the run of work handled. Cast iron welding forms perhaps a major part of the average welding shop's daily work and it pays the shop manager to give close study to preheating problems encountered in the various types of castings.

Small pieces can be preheated by the oxyacetylene blowpipe and welded without much difficulty. This method, however, is impracticable for larger pieces. A blacksmith's forge is sometimes used for certain pieces, but with this there is the possibility of overheating or burning the metal on one side, if constant care is not exercised.

The most practical and most economical method of preheating large pieces particularly where the entire casting is to be heated, is the use of the temporary firebrick furnace. This is built of loose firebrick laid without mortar. It is quickly constructed and can be built to any size desired.

The accompanying illustration shows a large preheating furnace encasing a heavy iron casting. Asbestos paper, having holes for draught if necessary, forms the top of the furnace. The spacing of the bricks around the base of the furnace assures sufficient draught to raise the piece to the proper temperature.

In order to keep a desired temperature, the fire must be regulated occasionally while the welding progresses. This is done by opening or closing the draught holes, rearranging the asbestos paper covering, moving hot coals from one place to another, or replenishing the fire whenever necessary. This important detail is usually performed by a helper. When the casting has reached an even, dull red heat, an opening is made in the asbestos paper cover just large enough to uncover the weld area, and welding is done through this hole.

After the weld is completed it is just as important to secure proper cooling. The entire casting or piece should be covered with fresh charcoal and brought up to an even heat. With the asbestos covering intact, the finished work should be allowed to cool and contract evenly in the dying fire. It is important that one part does not cool quicker than any other. If this happens the piece may crack due to an uneven "pull."

Preheating and annealing of cast iron is an essential part of welding technique. It is not a difficult feature for the methods of constructing the preheating furnace and governing the preheating temperature are easily understood.

Visiting Around the Refineries

By Paul Truesdell

National Petroleum News

KENDALL REFINING CO., Bradford, Pa., was the first company to install Sharples centrifugal dewaxing equipment for the manufacture of lubricating oil nearly 10 years ago. Just recently, according to the Max B. Miller Co., Inc., the company has ordered additional centrifugal machines, this being the third time the dewaxing capacity of the plant has been increased.

It is also reported that The Texas Co. has recently ordered a large number of Sharples centrifuges, enough, in fact, to double the capacity of its dewaxing plant at Port Arthur. The Texas Co. also is using contact filtration in the manufacture of motor oils.

* * *

POSSIBILITIES of economy in the use of waste heat to generate steam are being realized to a very profitable extent in connection with the operation of the Gyro vapor phase cracking process at the Marcus Hook refinery of the Pure Oil Co., I am told.

Last week on this page mention was made of the manner in which the Standard Oil Co. of Ohio utilizes some of the waste heat generated in a new cracking furnace to superheat steam for process work. The Pure Oil Co. has a different set of conditions to work with.

In the operation of the Gyro process, shock chilling of the vapors from the converter is accomplished through impact in an "arrester" with cold oil. This, of course, heats up the oil as well as cooling the vapors. The amount of cold oil it is necessary to circulate for the purpose of accomplishing the shock chilling is greater than the cracking system can handle and consequently it is necessary to withdraw the surplus oil from the bottom of the fractionating tower where it accumulates.

At the Marcus Hook plant, I understand, this oil, at a temperature of about 450 F., is drawn from the tower by means of a hot oil pump and circulated through a special heat exchange arrangement countercurrent to a stream of water, the result being generation of enough low pressure steam to run the refrigerating equipment in the wax plant.

* * *

NOT only are many refiners considering the possibilities of making use of some of the heat in flue gases from pipe stills after they have given up as much heat as they can to the oil, but the subject of heat exchange from vapors on their way to the condensers is being given further study. Considerable improvement in efficiency in the use of waste heat given off in condensing vapors to liquid are likely to be made in the near future.

In some cases it seems probable that better study of the situation will result in the installation of more heat exchangers and in some refineries it may mean the use of fewer heat exchangers. In one plant I know of, two heat exchangers were cut out because it was found that they were not earning their way, so to speak.

* * *

IT APPEARS that there are a number of factors entering into the design of pipe stills and other distillation apparatus, some of which are likely to be overlooked even by engineers well versed in the construction and operation of refinery equipment.

There are, of course, several standard pipe stills of recognized efficiency on the market but sometimes refining companies, for one reason or another, prefer to design and build their own stills rather than buy proprietary units.

In one such case I know of, after two pipe stills had been built and put in operation, they were shut down and one bank of tubes was removed from each. It was found that the oil reached its maximum temperature at a certain point in the still and that the extra bank of tubes actually cooled it down before it reached the outlet.

The thanks of the refining industry are due to the oil companies who have men working on the mathematical problems of heat exchange and heat absorption and are permitting the investigators to publish their results. Two such companies are the Standard Oil Co. of Indiana and the Atlantic Refining Co.

* * *

PRODUCTION of coke in the country's refineries is steadily increasing, to judge by the report on coke and by-products written by F. G. Tryon and H. L. Bennit of the Bureau of Mines, which was published last month. While the last year covered in the report was 1927, it seems likely that increase in coke production has continued up to date in something like the same proportion as the increase in 1927 over 1926. Petroleum coke production in 1926 totaled 995,308 tons; in 1927 production was 1,145,200 tons.

While the report does not separate cracking still coke and coke still coke, it seems that the increased production must be due to a very large increase in cracking operations. Of course, there are many refineries that are still running down to coke as was the fashion years ago but it seems from observation, that such coking operations are decreasing all the time.

The Bureau of Mines report states the chief uses of petroleum coke are in the manufacture of carbon electrodes, electric furnace resisters and dry cells. This applies chiefly to coke still coke. Much of the cracking still coke made is not suited for manufacturing purposes, being fit only for fuel.

Chats with the Automotive Engineers

By Paul Truesdell

DETROIT

WHILE refiners are working hard to develop an ideal oil to meet the severe lubrication demands of present day automobile engines, the automotive engineers are working equally hard to reduce the severity of the conditions to which motor oils are exposed in service.

Talk with technologists of the automobile manufacturing companies brings out the fact that a great deal of work is being done toward development of an oil cooler for use on automobiles, which would reduce the tendency of the oil to "break down" or crack or evaporate in service.

The oil cooler is not new. It has long been used on diesel engines, as was pointed out some time ago by Commander G. C. Davison, a veteran naval engineer and now president of the Tristate Refining Co., Kenova, W. Va. Also, the oil cooler has been used to some extent on European cars. But it is new, I believe to American automobile practice.

One technologist who has done a great deal of work on the subject says that a satisfactory oil cooler could reduce the maximum temperature of the oil in an engine under heavy duty conditions by at least 50 to 75 degrees from the present maximum. He also points out that the greatest advantage of the oil cooler would be realized in winter rather than in summer driving.

The reason for this, of course, is that there is no starting problem in summer. In order to maintain its viscosity under the severe heat of hard driving, it is necessary to use a heavy oil and in many cases the high viscosity of the oil makes starting in cold weather very difficult.

If the maximum driving temperatures are kept down, an oil of lower viscosity could be used which would offer less resistance to turning the engine over after a night in a cold garage.

While most automotive engineers are convinced that the oil cooler sooner or later will be standard equipment on all cars, they say that the idea has not yet progressed far enough to indicate what will be the general design of the cooler or just where it will be fitted to the motor.

It is pointed out that either the fin type or the radiator type could be used. The first would resemble the cooling system used on the cylinders of air-cooled engines and the latter would be similar to the present radiator for cooling water, where the cooling would be effected by a blast of air.

While it is expected by the automobile engineers that general adoption of oil coolers on automobiles will widen the range of crudes from which acceptable motor oils can be made, it is not expected that the refiners will abate their efforts toward better refining methods, more complete removal of wax and so on.

THE term "compression ratio" has virtually lost its meaning as an index to the actual pressures under which motor car engines operate, it is brought out in discussion with automobile engineers. Theoretically, of course, a car with a compression ratio of 5 to 1 should have a higher actual compression pressure than one with a ratio of 4 to 1 but this is not always the case.

Motorists frequently wonder and sometimes ask service station salesmen why some of the cars listed as having low compression engines, knock easily on many of the fuels offered on the market. The answer is that although the compression ratio may be low, the actual compression pressure is high.

It is pointed out that if the manifold design is such that a high compression engine gets only part of a full charge, the actual compression is correspondingly reduced. Valve design, manifold design, cylinder head shape, location of spark plugs and timing of the spark are pointed out as factors affecting the actual compression pressure of an engine, regardless of what the listed compression ratio may be.

Oil men will be nearer to knowing the actual requirements of various cars from an anti-knock standpoint if they consider compression pressure instead of compression ratio, it is pointed out.

* * *

RIGHT along the same line as bearing on the question of compression pressures, the problem of how to determine anti-knock value of a gasoline and how to express that value when found so it is intelligible to all continues to present difficulties to the oil and automobile industries.

The members of the joint committee of oil and automotive technologists, headed by T. A. Boyd, chief of the fuel section of General Motors Research Corp., have not even completed trying out in their individual laboratories the test engine agreed upon by them and built to their order, let alone devise a testing method that could be offered as standard.

The difficulties in this work are regarded by those who know most about the subject as tremendous and when they are finally surmounted it would seem that a development of enormous importance to the two industries will have been achieved.

* * *

THE next step in the extension of the usefulness of the S. A. E. numbers for designating the viscosity of motor oils may be a suggestion from the lubricants division of the Society of Automotive Engineers that refining companies who export motor oils stamp the S. A. E. numbers of their oils upon the cans or drums in which they are marketed.

Some difficulties already have been encountered by dealers selling American cars in Europe in advising their customers in terms the latter can understand, what kind of oil to use. Also, it may be desirable to work out

Jenkins VALVES ARE ALWAYS MARKED WITH THE "DIAMOND"

TRADE JENKINS MARK

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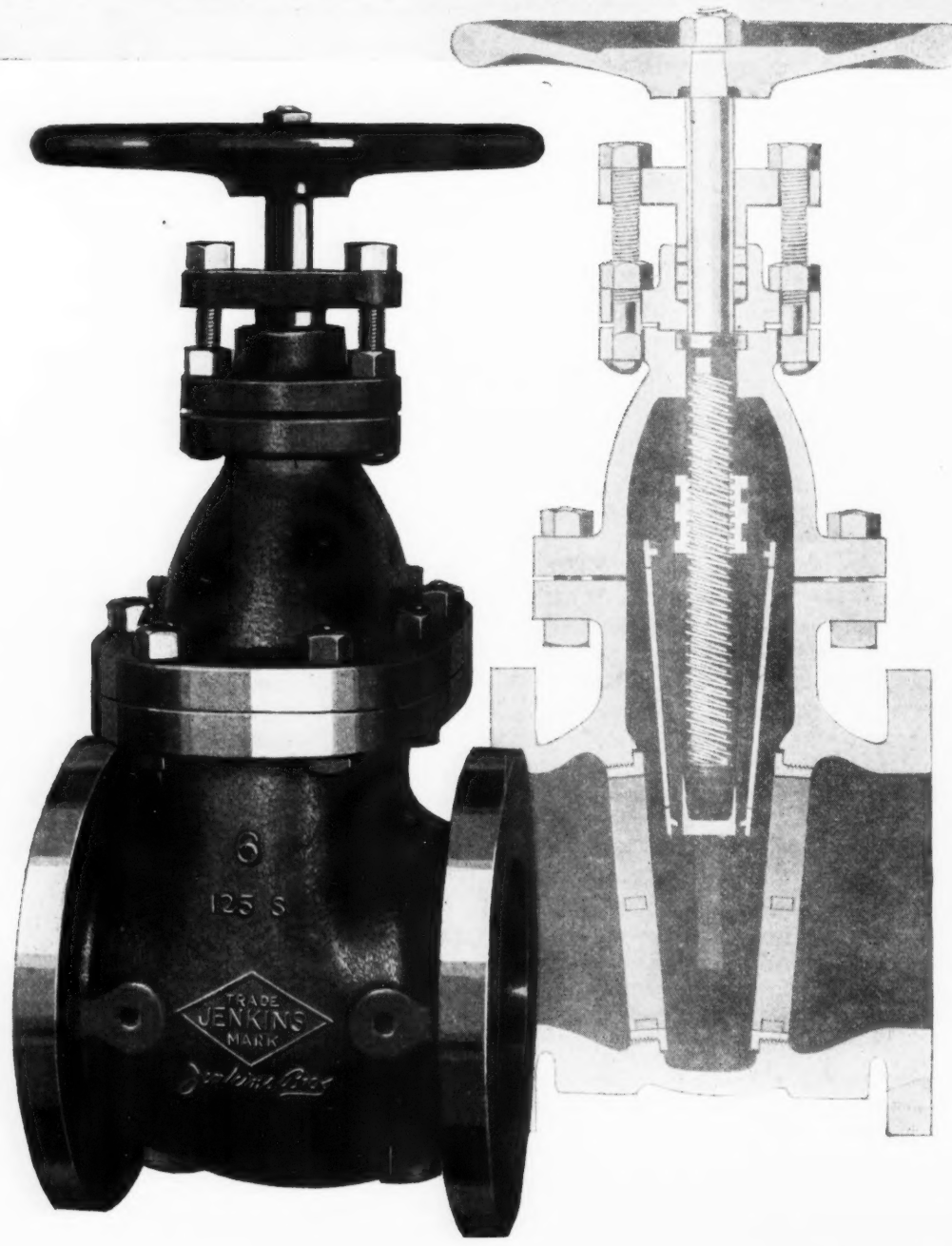
Uniform castings contribute stamina

HIGH grade castings, characterized by an even distribution of metal, give Jenkins Iron Body Valves stamina to stand up in severe service. This Fig. 326, Jenkins Standard Iron Body Gate Valve is made flanged, or screwed. Sizes 2 to 16 inches are for 125 pounds steam or 175 pounds water, and 18 to 24 inches for 100 pounds steam and 125 pounds water. Jenkins Bros., New York, Boston, Philadelphia, Chicago . . . Jenkins Bros., Ltd., Montreal, London.



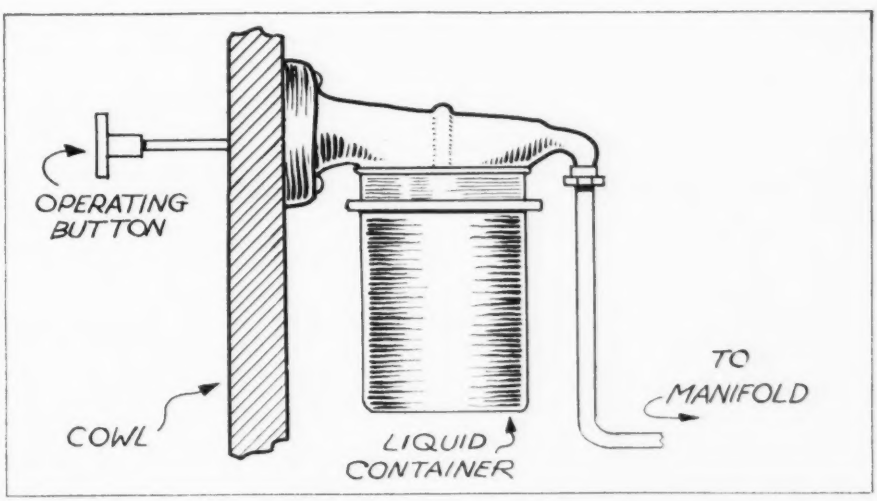
a conversion table to make the S. A. E. viscosities as expressed on the Saybolt scale easily translatable into the terms of European testing methods such as the Engler. Perhaps something could be done through the oil export association.

It is understood that some of the refining companies that have adopted the S. A. E. numbers are already stamping the numbers on their containers for export as well as on those going to the domestic market.

* * *

TWO new models of the Chrysler line are coming through equipped with a decarbonizing device that is almost automatic in action. That is to say, it works with a minimum of attention and effort on the part of the driver. The decarbonizer had a trial of about a year on the Imperial, the highest priced model in the Chrysler line. Its performance was satisfactory enough to cause the company to put it on two additional models, the 70 and the 77 this year.

The purpose of the decarbonizer is to hold the compression pressure of the engine down to the designer's specifications by keeping the cylinders substantially clean of carbon. The fluid used to dissolve the carbon, or rather the binder that holds the carbon on cylinder walls and piston heads, is described as a mixture of well-known commercial solvents. It is put up in 6-ounce cans and sold through Chrysler dealers.



The sketch shows what the device is like.

The fitting that holds the can of solvent is attached to the cowl with the operating button projecting through into the driver's compartment within reach of his hand. Projecting downward from the horizontal fitting is a threaded nipple the threads of which fit the threads on the top of the can.

The driver buys a can of the solvent, takes the top off it and screws the can into the fitting. The operating button is attached to a rod that closes the opening leading from the can holder into the line going to the manifold. The Chrysler instruction book advises the driver to use the decarbonizer every 500 miles.

The method of operating the decarbonizer is given as follows:

Drive into the garage at night with the engine hot. While the engine is running, pull out the operating button. This opens the valve at the top of the can and exposes the contents of the can to the suction of the manifold. At the same time it opens a port that allows air to flow into the can as the solvent is sucked out.

The vacuum created by the pistons draws the full charge of solvent out of the can into the manifold whence it is distributed to the cylinders. The slugs of liquid kill the engine. The driver thereupon shuts off the ignition and leaves the car all night. The solvent works upon the sticky binder and thereby loosens the carbon which is blown out of the exhaust when the engine is started the next morning. It is stated that in actual practice the decarbonizer does not always remove all the carbon.

* * *

WHAT will be the effect on the refining industry if the diesel type of engine in the future generally or largely replaces the gasoline engine as a power plant for airplanes?

I asked this question of Capt. L. M. Woolson, aeronautical and research engineer of the Packard Motor Car Co., who has developed a diesel aviation engine.

Captain Woolson said he was not yet ready to answer that question but indicated that considerable thought has been given to the fact that even if the diesel engine is successfully developed, unless it has a much wider range of possible fuels than most diesel engines, it will be restricted to a product resembling stove distillate of which the possible output from crude oil is considerably less than the possible yield of gasoline.

Captain Woolson and his company are proceeding in a conservative manner, unwilling to do much talking until they have thoroughly studied all factors in the situation.

Certainly, if in the future the diesel type engine generally or largely noses out the gasoline type, this fact is going to have a great effect on the development of aviation fuels by refiners.

Airplane Service To Tulsa Arranged During Expo

TULSA, Aug. 30

Oil men who will attend the sixth International Petroleum Exposition and Congress at Tulsa beginning Oct. 5 will be provided with airplane service from St. Louis to Tulsa, according to announcements sent out by the Southwest Air Fast Express, Inc., Tulsa.

A S.A.F.E. 14-passenger aerocar or bus, will await in front of the Union Station at St. Louis until 7:45 a.m. each morning at which time it will leave for Lambert field where it connects with a S.A.E. way 14-passenger, tri-motored Ford airliner at 8:30 a.m. It gets to Tulsa at 12:25 noon.

The Illinois Central train leaving Chicago at 11:55 p.m. also connects with this bus and plane.

Planes leaving oil or railroad centers for Tulsa each day during the Exposition, and the time of departure from the airports of the various cities are:

St. Louis	8:30 A.M.
Kansas City	9:30 A.M.
Dallas	8:45 A.M.
Fort Worth	9:10 A.M.
Sweetwater, Tex.	8:30 A.M.

There will be automobile transportation from the station to the airfield at each city without charge.

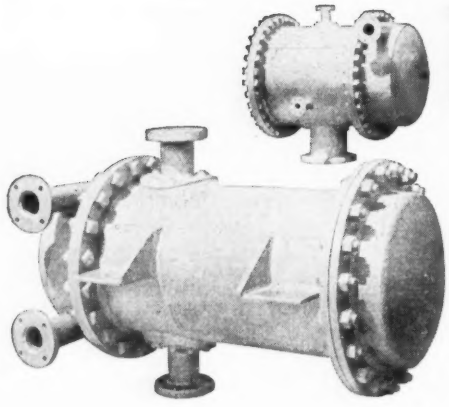
Passengers coming from the Pacific Coast can take the Standard Airlines plane leaving Los Angeles at 8:30 a.m., arriving at El Paso at 5:30 p.m., connecting with T. & T. train leaving El Paso at 8:20 p.m., and connecting with the plane leaving Sweetwater at 8:30 a.m.

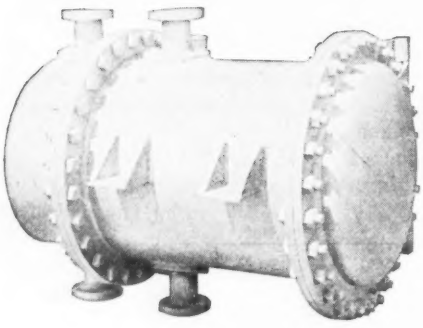
Reservations may be made now with the S.A.F.E. at Tulsa.

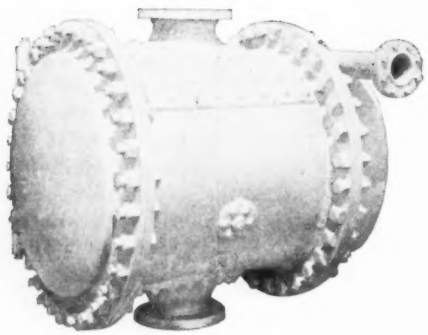
REFLUX

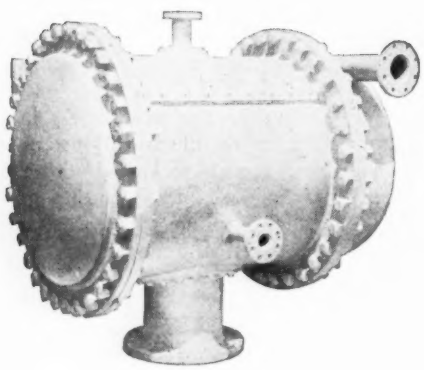
Condensers

TYPE

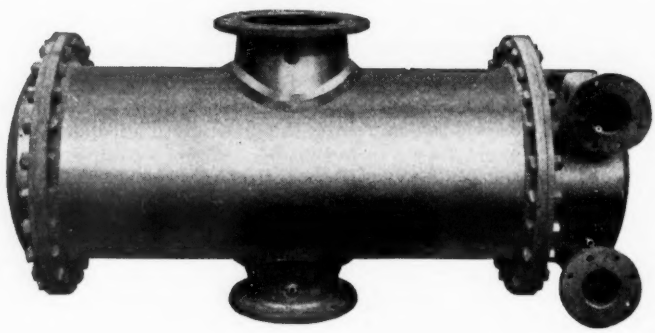




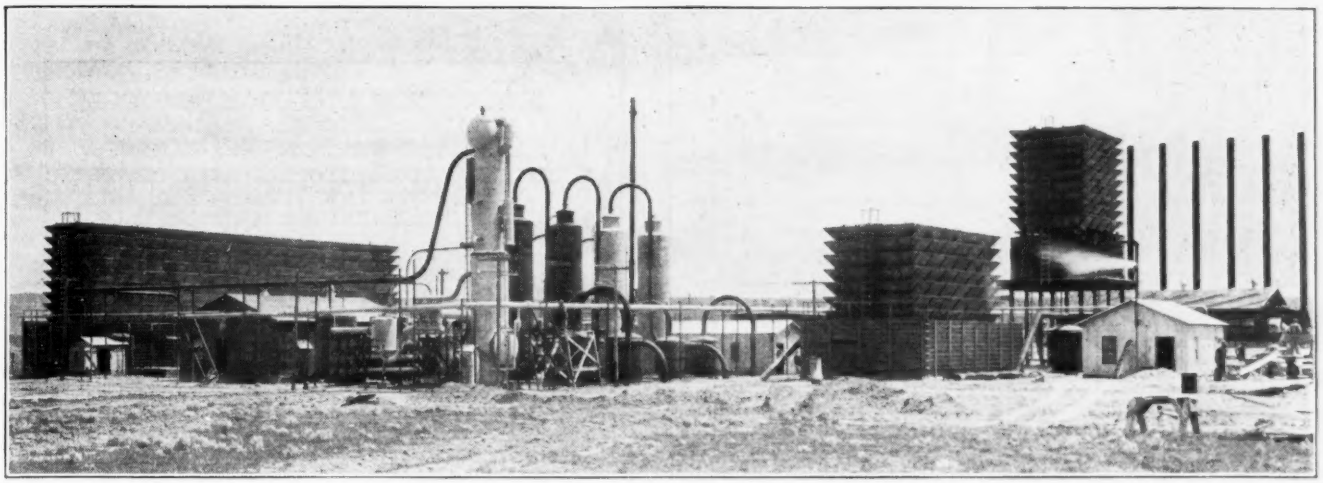




FOR either High or Low Pressure. Designed specifically for any duty. May be obtained promptly from stock materials with tubes made of Admiralty Metal, Steel or Aluminum.



TULSA
Boiler & Machinery Co.
TULSA OKLAHOMA



Coltexo Gasoline plant No. 3 at Lefors, Texas

How to Cut Steam Costs in Operating Absorption Gasoline Plants

LOS ANGELES, Aug. 30

GREAT savings in the use of steam in gasoline absorption plants can be effected by proper selection of boilers, pumps and other equipment and correct working out of operating schedules, members of the California Natural Gasoline Association were told at a recent meeting held here.

W. L. Rifenberick, an engineer of the Foster-Wheeler Corp. was the speaker. His talk aroused a great deal of interest and some discussion in which J. A. Campbell, gas engineer and designer and builder of gasoline plants, took a leading part. The title of Mr. Rifenberick's paper was, "Economical Use of Steam in Gasoline Plants."

It was pointed out at the beginning that the natural gasoline industry has not benefited by the experience of steam users in the power industry, which fact the writer attributed to the relatively short time some plants have been in operation and to the low cost of fuel that made it unnecessary to economize.

To show the possibility of materially reducing capital investment and operating costs through a thorough understanding of the principles of steam use in gasoline plants, Mr. Rifenberick dealt largely with steam consuming equipment, stating that, "economies in large power plants are being made through the use of higher pressures and higher steam temperatures. Continuous boiler ratings of 300 to 400 per cent are possible with less maintenance and less repair to boiler settings than is now being obtained in gasoline plants."

By the use of economizing equipment such as water walls, feed water heaters, superheaters, and air heaters, boilers may be made much more efficient, the speaker stated. The use of water walls was suggested as a means of reducing furnace temperature to 2600 F. as a maximum rating.

It has been determined by a limited number of tests that whereas boilers operating without water walls with either mechanical or steam atomizing burners rarely exceed 160 per cent of their rating, when equipped with water walls they may attain continuous rating of 300 and even 400 per cent without any refractory repairs.

By the use of countercurrent type economizers, which may be installed at a cost of approximately $3 a square foot, the feed-water may be heated from an average temperature of 220 degrees to 340 F., and at the same time the square feet of boiler heating surface may be reduced 20 per cent.

The author does not consider that air heaters are essential for economy in the boiler plant of a natural gasoline absorption system, although they may be installed at an average cost of $1 per square foot.

He also states that in the past steam pressures have been upward of 125 to 150 pounds, but due to the need of high-pressure boilers for drilling purposes a larger number of the 200-pound locomotive-type boilers are being used in gasoline plants.

Horizontal return tubular boilers, due to their design, are seldom built for pressures in excess of 150 pounds.

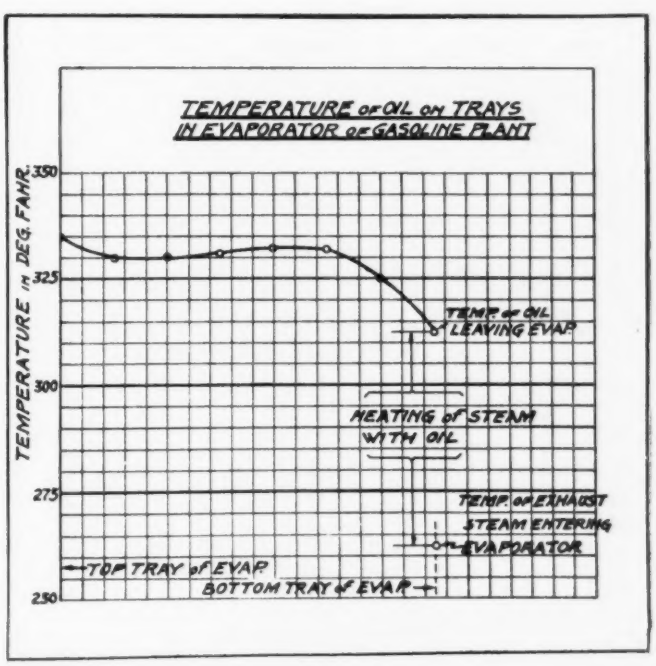


Figure 1

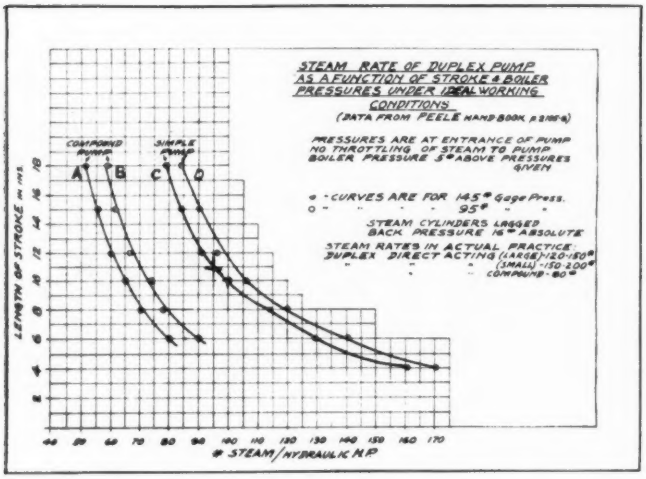


Figure 2

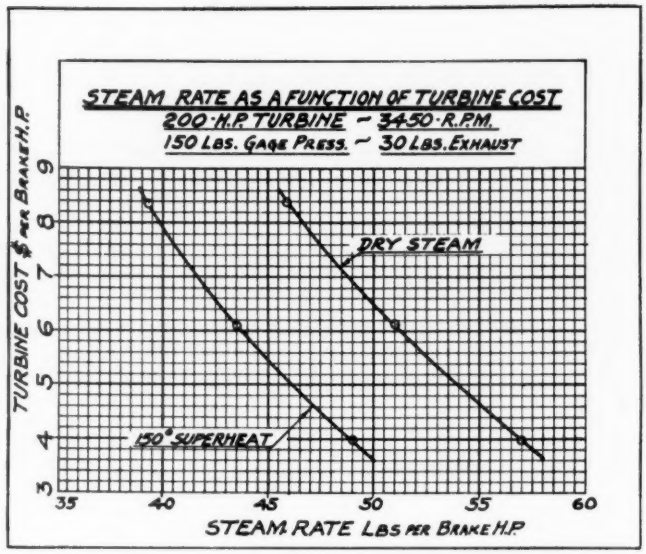

STEAM RATE AS A FUNCTION OF TURBINE COST
200 H.P. TURBINE ~ 3450 R.P.M.
150 LBS. GAGE PRESS. ~ 30 LBS. EXHAUST
DRY STEAM
150° SUPERHEAT
TURBINE COST $ PER BRAKE H.P
STEAM RATE LBS PER BRAKE H.P

Figure 3

In gasoline plants a large amount of steam is needed for the evaporators, at from 20 to 40 pounds pressure, and, since it is not economical to operate one set of boilers at a low pressure for the process steam and another at a higher pressure for the pump and pre-heat steam, one boiler plant is used to generate all the steam required at the higher pressure.

The author is of the opinion that wrong methods are sometimes used in obtaining the 30-pound steam for process work in the evaporators. He says that, on the one hand, no work is obtained from live steam when it is expanded through a valve to a pressure of 30 pounds, and, on the other hand, where exhaust steam from the pumps is put into the evaporator at approximately 30 pounds pressure, a considerable amount of water passes into the still, which prevents efficient operation. The temperature of the steam in such a case has also fallen to about 274 F., which has a decided cooling effect on the oil.

Referring to Fig. 1, which shows the temperature drop of the oil through an evaporator in which exhaust steam is admitted at 30 pounds pressure, it is seen that the temperature is fairly constant on the upper trays, but falls very rapidly on the lower ones.

This decrease is due to the heating of the steam by the oil, a reverse effect from that desired.

Had the exhaust steam been superheated to a temperature in excess of the oil in the evaporator, a heating effect would have been obtained, which is the result desired.

Fig. 2 indicates that the duplex, or piston, pump is more efficient with a long stroke than with a short one. Curves A and C are for 145 pounds, and curves B and D are for 95 pounds gage pressure at the cylinder, representing 150 and 100 pounds boiler pressures, respectively, allowing five pounds for wire-drawing through the valves.

Mr. Rifenberick considers it safe to use the following steam rate for duplex pumps:

Large sizes, from 120 to 150 pounds per hydraulic horsepower, and from 150 to 200 pounds for smaller sizes.

With compound pumps, sizes around 18 by 24 inches, it is possible to reduce this pressure to about 80 pounds. Cylinder condensation and the inher-

Table 1

Steam Consumption of Duplex and Simplex Pumps

Tests by Robert Hunt & Co.

Pump	Size	Strokes per min.	Capacity C/M	Total head	Per cent slip	Mech. eff. per cent	Steam rate lb. per water H. P.
Duplex	6 x 4 x 6	79	20	191	16.16	78	196.3
Simplex	6 x 4 x 8	64.7	24	199	7.12	90	146.8
Simplex	8 x 5½ x 12	154.5	139.3	238.6	1.23	....	82.67
Simplex	8 x 5 x 12	127.7	133.6	241.2	3.84	....	111.74

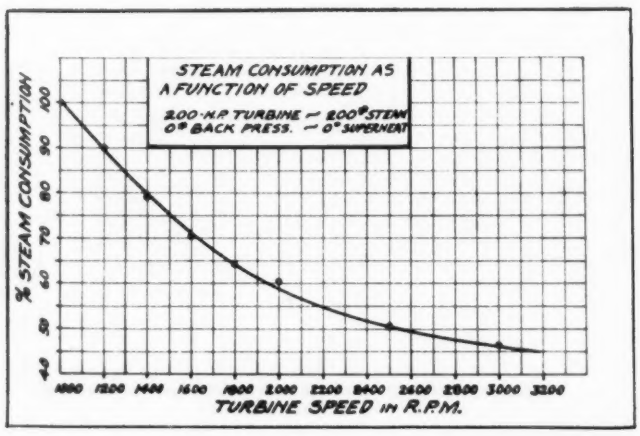

STEAM CONSUMPTION AS
A FUNCTION OF SPEED
200 H.P. TURBINE ~ 200# STEAM
0# BACK PRESS. ~ 0° SUPERHEAT
% STEAM CONSUMPTION
TURBINE SPEED IN R.P.M.

Figure 4

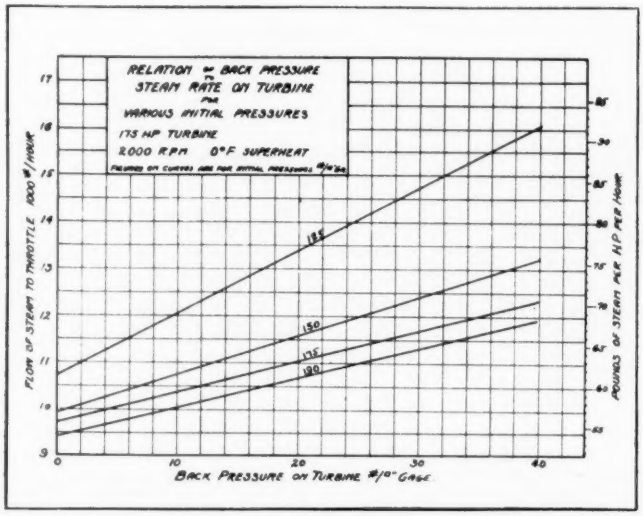


Figure 5

ent inability to use steam extensively result in waste of steam, it was pointed out.

Referring to Table 1 it is seen that the steam rate of duplex pumps is a function of the number of strokes. The more rapidly the pump is operated, within safe limits, the lower the steam rate; which is partially due to the fact that for slow-speed pumps there is a longer period of stoppage of flow at the end of the stroke, and it, therefore, takes more energy to start the fluid again on the succeeding stroke than if it were kept in constant motion.

IN THE use of reciprocating pumps, it is suggested that a long-stroke be used and that the pumps be operated at a speed that will give a minimum steam consumption.

Consumption of steam in a direct acting pump decreases as the speed increases. Tests on a 16 by 12-inch Duplex pump at the Massachusetts Institute of Technology gave the following approximate results:

20 strokes per min. 200 pounds per I.H.P. at steam end.

35 strokes per min. 150 pounds per I.H.P. at steam end.

75 strokes per min. 100 pounds per I.H.P. at steam end.

Fig. 3 indicates the manner in which steam rate varies as a function of the turbine cost per horsepower. This curve is typical for 200 horsepower turbines dry and saturated steam, and illustrates the reduction of steam consumption by the use of superheat.

Turbines have become the most widely used prime mover today in power plants because they are economical in large sizes and the steam consumption is low even in small sizes.

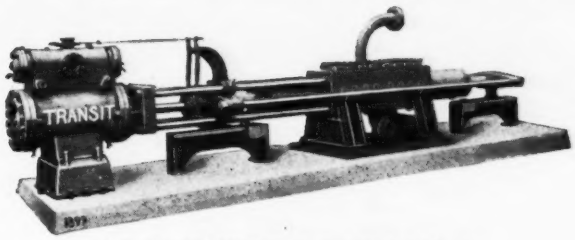
Although a few years ago small turbines were very uneconomical in the use of steam it is now possible to obtain turbines of 40-horsepower capacity that are comparable with steam engines of similar capacity.

Figure 4 shows the steam consumption of a turbine as a function of the speed. From this we see that the higher the speed of the turbine the lower the steam consumption. A general practice among manufacturers of turbines is to have the peripheral velocity of the wheel 50 per cent of the velocity of the steam.

Referring to Figure 5, in which the steam consumption varies as a function of the back pressure and initial steam pressure, we see that the higher the back pressure the greater the steam consumption; and also the higher the initial steam pressure the lower the steam consumption. Therefore, the author advises the use of live steam with a pressure as high as possible to hold down the amount of steam consumed.

Figure 6 shows the horsepower it is possible to obtain in a single frame

TRANSIT HOT OIL PUMPS
are simple and dependable



18x6x24" TRANSIT Single End Packed Plunger Pump. 515 lbs. pressure, 110 g.p.m.

Refiners have learned to appreciate simplicity in pumps.

Simple, slow moving, long stroke reciprocating pumps are long lived, safe and dependable, and every man around a refinery understands them. The works are on the outside. Minor adjustments and repairs are easily made by any handy man.

NATIONAL TRANSIT
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WAX PLANT EQUIPMENT

Filter Presses — *Wax Moulding Presses*
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Wax Testing Presses — *Paraffine Wax Sweater Plants*
Complete Wax Plants designed and built
Pumps, Stills, Towers, Condensers and other Oil Refinery Equipment
Oil Burning Systems — *Complete Power Plant Equipment*

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Increase your gasoline yields,
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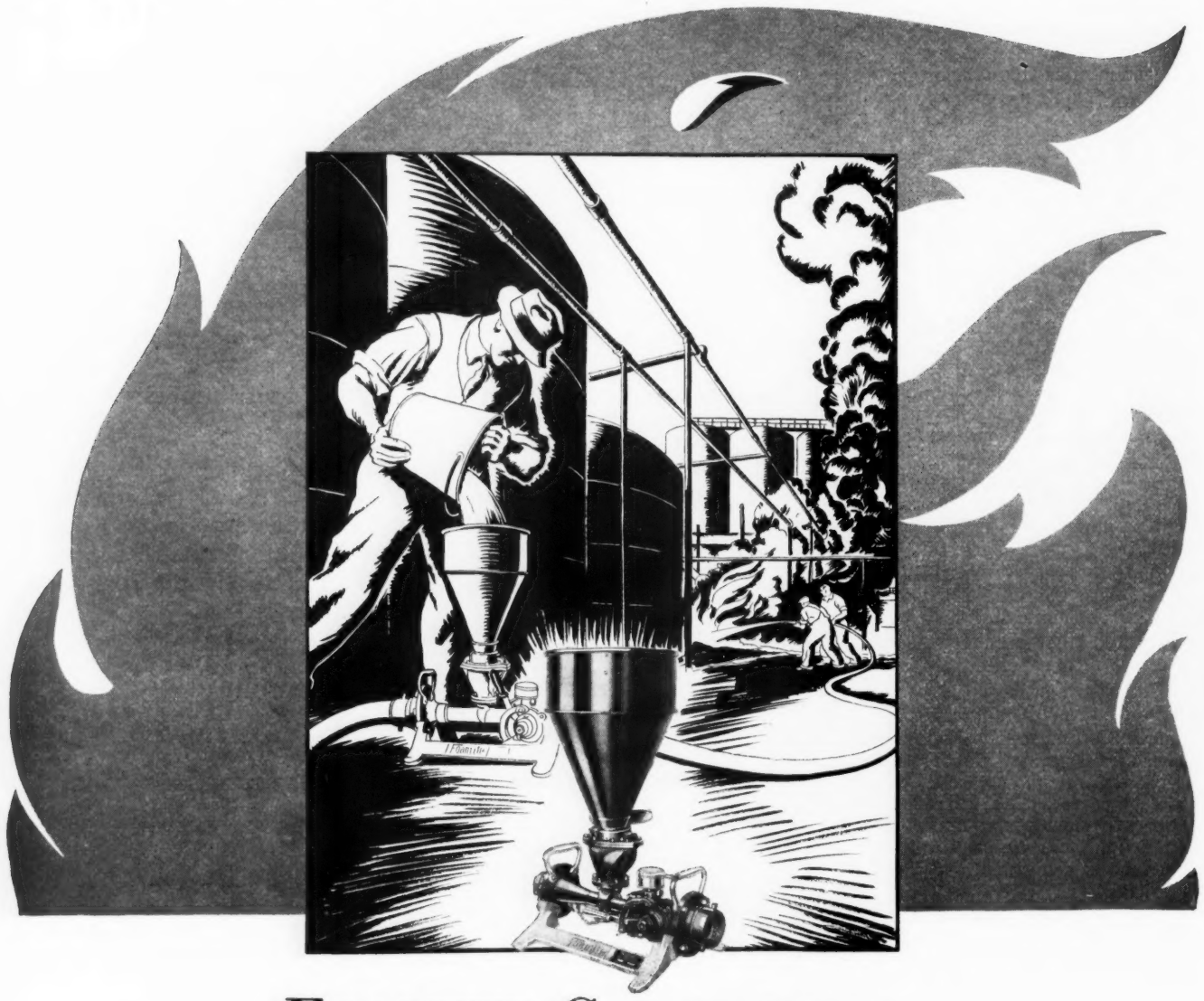
KILL FIRE WHILE IT IS YOUNG



FOAMITE Generators— your heavy artillery against fire

Just as your smaller units of FOAMITE Equipment—extinguishers and engines—are your shock troops to subdue fire, so FOAMITE Foam Generators are your heavy artillery.

Kill the fire if possible, or hold it in check, with the smaller equipment—but be sure your second line of defense is ready for any emergency. The FOAMITE Generator is easily portable to any point—"a million dollar performer that you can carry under your arm". Connect it to your water supply, pour in a *single* powder—FOAMITE Generator Powder — and a stream of the highest-grade foam—genuine *Firefoam*—goes into action.

The mixture of powder and water is automatic. There are no fancy adjustments. The Generator operates properly between wide limits of pressure.

Used as a portable fire fighter, or hooked into a FOAMITE Generator System, the Generator has a wide range of usefulness. One of our representatives will be glad to demonstrate for you this method of assuring practically unlimited quantities of *Firefoam*.

You are cordially invited to visit our booths—95 and 96 in the Texas Building—at the 6th International Petroleum Exposition.

American-LaFrance and Foamite Corporation, Engineers and Manufacturers, Dept. E32, Elmira, N. Y.

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A Complete Engineering Service

For Extinguishing Fires

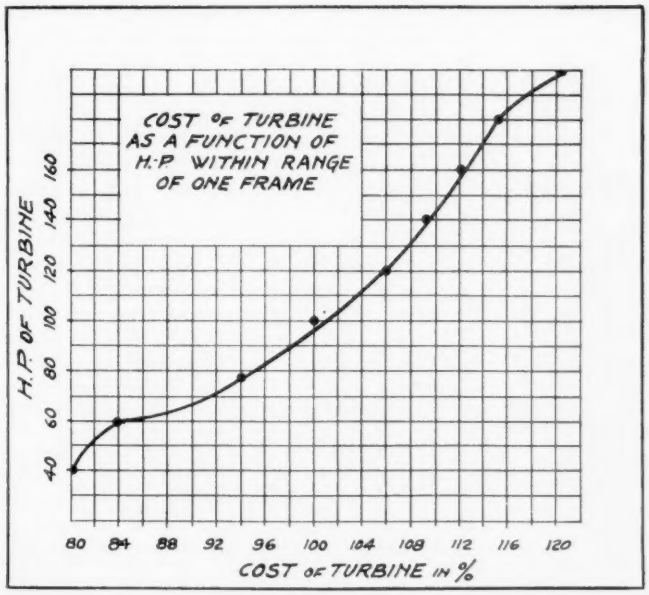

COST OF TURBINE AS A FUNCTION OF H.P WITHIN RANGE OF ONE FRAME
H.P. OF TURBINE
40 60 80 100 120 140 160
80 84 88 92 96 100 104 108 112 116 120
COST OF TURBINE IN %

Figure 6

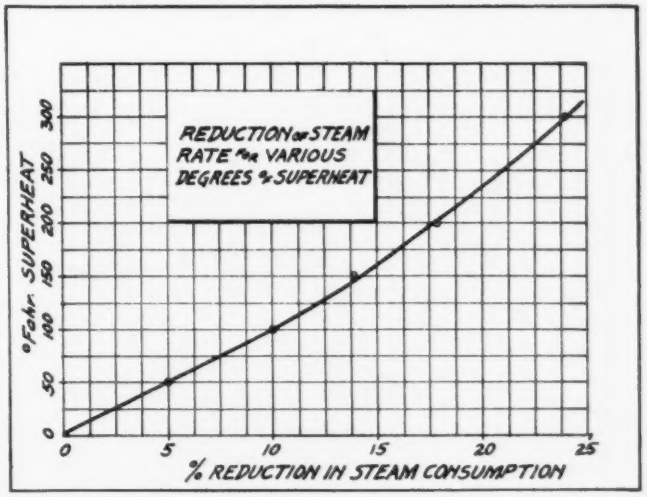

REDUCTION OF STEAM RATE FOR VARIOUS DEGREES % SUPERHEAT
°Fahr. SUPERHEAT
0 50 100 150 200 250 300
0 5 10 15 20 25
% REDUCTION IN STEAM CONSUMPTION

Figure 7

and the relative cost for the various horsepowers.

Figure 7 shows the manner in which the steam rate varies as a function of the degree of superheat of the steam.

Figure 8 shows the relation of the initial steam pressure to the steam rate of a turbine. It has been determined that for every 1 per cent of moisture in the steam, the steam consumption is increased 2 per cent. This moisture may be caused by the cooling of the steam in an insulated pipe, causing condensation.

To obtain the most economical use of steam in a turbine it is suggested that high steam pressure, high superheat and high speed be maintained. Another important consideration is the determination of a suitable turbine speed that will make possible the combined use of pump and turbine. That is, a turbine speed should not be set so as to fit the needs of a pumping unit but rather a speed should be used that gives the most economical use of steam, regardless of first cost.

Table 2 shows the actual value of superheated steam over dry and saturated steam in a sample engine. The test shows that the theoretical gain is only the difference between 15.9 and 14.2 or 11.6 per cent while the actual gain is the difference between 10.6 and 6.3 or 65 per cent increase. The increased cost of obtaining the superheat is almost negligible in comparison with the gain in thermal efficiency of the engine.

Operating cost comparison of boiler feed pumps designed for 250 gallons per minute and operated 9 hours a day at 160-pound steam pressure and 2 pounds back pressure.

Table 3

	Turbo Centrifugal	Compound Duplex
First cost	$1008	$980
Valves to be watched	0	14-18
Packing boxes	4	18
Oil used in 15 days, pints	4	30
Grease, pounds	4	0
Maintenance, packing, etc., per year	$30	$120

Numerous tests have shown, ac-

Table 2

Effect of Superheat on Actual and Theoretical Engine

I.H.P.	Steam pres.	Deg. of superht. F.	Lb. of steam per I.H.P.	Thermal Eff. % Actual	Thermal Eff. % Theoretical
13.33	101.7	0	39.62	6.3	14.2
13.33	98.5	98.3	33.8	7.1	14.6
13.47	98.6	254.2	23.36	9.5	15.2
13.49	99.5	319.6	20.08	10.4	15.9

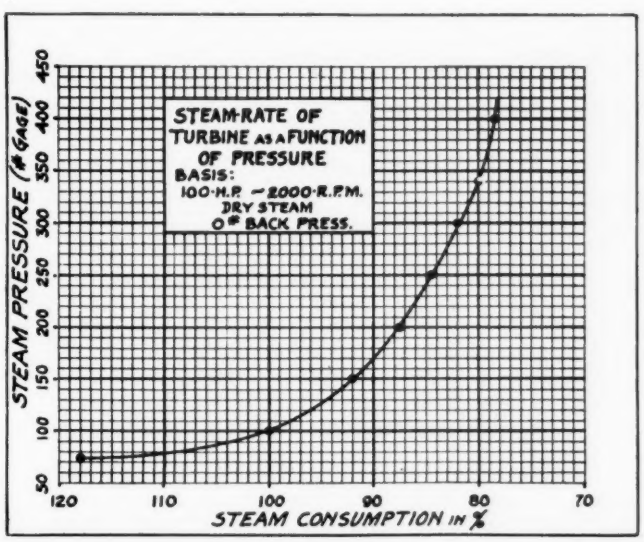
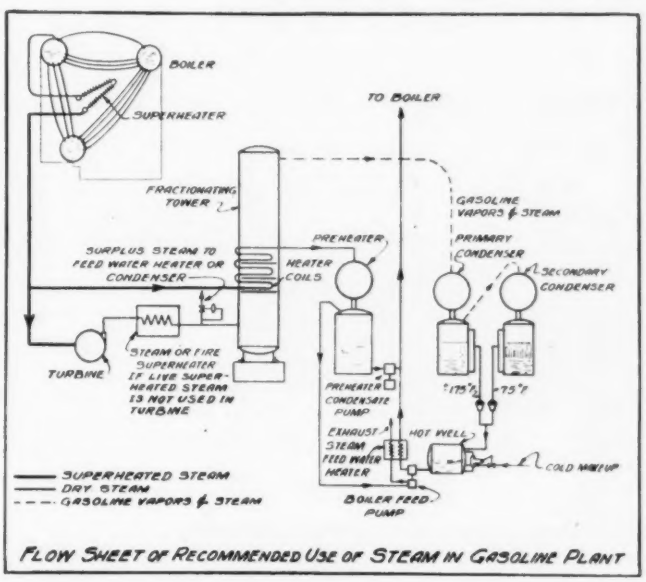

STEAM-RATE OF TURBINE AS A FUNCTION OF PRESSURE
BASIS:
100-H.P. — 2000-R.P.M.
DRY STEAM
0# BACK PRESS.
STEAM PRESSURE (# GAGE)
50 100 150 200 250 300 350 400 450
120 110 100 90 80 70
STEAM CONSUMPTION IN %

Figure 8



Flow Sheet of Recommended Use of Steam in Gasoline Plant

Figure 9

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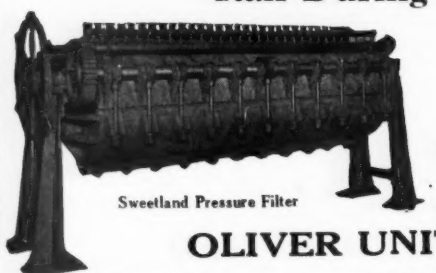

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1 Sweetland	2 "
1 Kelly	1 "
8 Sweetlands	

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PARIS, 63 Ave. des Champs Elysees

cording to Mr. Rifenberick, that unless the steam reaches the evaporator via a good steam separator it will contain about 3 per cent moisture and that if it is passed through a separator the amount of moisture may be cut to ½ of 1 per cent.

From Table 4 we see that if dry steam at 125 pounds is expanded to 30 pounds gage, the final temperature will be 316 F. and if the contained moisture is increased to 3 per cent, the steam temperature will be only 274 F. and will still have a trace of moisture. The cooling effect caused by the presence of moisture should be guarded against by reheating the steam to the temperature desired before admitting it to the evaporator.

Table 4

Temperature of steam after expansion to 30 pounds gauge (in degrees F.)

Initial Steam Pres. gage	% Moisture before expansion 0	1	2	3
125	316	299	282	274
150	319	304	287	274
200	326	310	293	279

Unlike ordinary cases, the steam consumption of the pump is important in gasoline plants. If the exhaust from the duplex pumps is used and is all put into the evaporator, there is an excess over the amount required which puts a heavy load on the condenser.

This is also true in turbines unless an economical selection is made. By the use of 100 degrees of superheat the steam rate of duplex pumps, if lagged, is reduced approximately 30 per cent, due to the elimination of cylinder condensation.

It is not necessary to reheat the exhaust steam from a turbine if superheated steam is used for example: If a 150-horsepower turbine takes 200-pound steam with 200 F. superheat and runs at 3000 r.p.m. discharging at 30 pounds gage, the temperature of the exhaust steam will be about 429 F.

Table 5 considers a further method for obtaining a steam balance in a gasoline plant. It takes the case of a plant circulating 500,000 gallons of lean oil, 520,000 gallons of rich oil, 1,500,000 gallons of water, and 50,000 gallons of gasoline reflux per day. The lean and fat oils are boosted through 125-pound pressure and the gasoline and water are boosted through 60-pound pressure.

The power required to drive these four pumps in the case of a steam turbine is 140 horsepower. The oil is assumed to be heated from 250 to 350 F. in the preheater; the turbine speed is taken at 3000 r.p.m. and it has been verified by many tests that if the still pressure is 25 pounds, the steam required is 1.3 pounds per pound of gasoline in the rich oil.

Three cases have been considered for the duplex pumps. In each case,

steam of 150 pounds pressure was used. In the first case there is no superheat to the steam and the back pressure is atmospheric.

In the second case there is no superheat and the back pressure is 30 pounds.

In the third case, superheat is 100 F. and the back pressure is 30 pounds.

In the first case live steam is used and in the latter two cases exhaust steam. If live steam is used in the evaporator 848 horsepower will be required; while if dry steam is used in the pumps and exhaust steam in the evaporator, 745 boiler horsepower will be required, and if 100 degrees of superheat is used, and exhaust steam in the evaporator, there will be 517 boiler horsepower required.

NOW, if the same process is gone through with for the turbine and the boiler pressure is varied from 150 to 400 pounds and superheat from 0 degrees to 300 F. it is found that the steam from the turbine is equal to the steam required by the evaporator at about 250 pounds pressure with 150 degrees superheat or 200 pounds pressure and 200 degrees superheat.

More high pressure steam is required to heat oil than low pressure because the latent heat is decreased as the pressure is increased, and only the latent heat is utilized. This is not important if the condensate from the pre-heater is put back into the boiler.

Table 6 compares the cost of a boiler plant and pump equipment required for the four plants with the oil, water and gasoline capacities given. The total cost of boiler plant with superheat for live steam, stack, accessories, brick work and fittings will be about $61 per boiler horsepower and is the basis of comparison in Table 6.

BASIS of COMPUTATIONS:

500,000 GALLONS LEAN OIL/DAY @ 125° PRESSURE
520,000 " RICH " " @ 125° "
1,500,000 " WATER " " @ 60° "
50,000 " REFLUX GAS " " @ 60° "

HYDR. H.P. or TURBINE - 140
H.P. DUPLEX PUMPS - 115
HEAT OIL FROM 250°F. to 350°F.
1.3 # of STEAM / # GASOLINE - TURBINE SPEED 3000 R.P.M.

TYPE OF PUMPS	STEAM PRESSURE GAGE	°Fahr. SUPERHEAT	EVAPOR. RATE	BACK PRESSURE GAGE	# or STEAM FOR PUMP PER HOUR	# OF STEAM FOR EVAPOR. PER HOUR	# or STEAM TO HEAT OIL 0°F. SUPERHEAT	STEAM IN EVAPOR.	TOTAL # or STEAM PER HOUR	Boiler H.P. REQ'D
DUPLEX	150	0	135	0	15,500	3,950	7220	LIVE	28670	848
"	150	0	155	30	17,800	3,950	"	EXHAUST	25,020	745
"	150	100	100	30	11,500	"	"	"	18,720	517
TURBINE	150	0	30	0	4200	"	"	LIVE	17,370	512
"	150	0	53	30	7,420	"	"	EXHAUST	14,640	433
"	150	150	47	"	6,580	"	"	"	13,800	363
"	200	"	45	"	6,300	"	7,370	"	13,670	360
"	250	"	43	"	6,000	"	7,500	"	13,500	355
"	300	"	42	"	5,900	"	7,650	"	13,600	358
"	350	"	41	"	5,780	"	7,790	"	13,740	362
"	400	"	40	"	5,600	"	7,900	"	13,800	363
"	400	300	36	"	5030	"	"	"	"	"

NOTE: SUPERHEAT STEAM IS PRESUMED TO BE DESUPERHEATED BY PASSING IT THRU HEATER COILS IN EVAPORATOR BEFORE GOING TO PREHEATER.

Table No. 5

In each of the four plants the cost of duplex pumps is less than the cost of centrifugals with turbines, but if the comparisons had been carried further, the author states, the cost of the centrifugals would soon become less than that for the duplex pumps. They become equal for a lean oil mixture of about 750,000 gallons per day.

Mr. Rifenberick proposes the following use of steam in gasoline plants (see Figure 9). Generate steam at 200 pounds pressure with 200 pounds of superheat.

COMBINED COST OF PUMPS & BOILER PLANT

OPERATE BOILERS @ 150% OF RATING (WATER TUBE TYPE)

PLANT	COST OF PUMPS		BOILER H.P. REQD @ 150% RATING			COST OF BOILER PLANT			TOTAL COST OF BOILER & PUMPS		
	DUPLEX	CENTRIFUGAL & TURBINE 2 UNITS	DUPLEX UNIT		TURBINE DRIVEN CENTRIF. PUMP	DUPLEX PUMP		FOR TURBINE DRIVEN PUMP PLANT	FOR DUPLEX PUMP PLANT		FOR TURBINE DRIVEN PLANT
			0° SUP.	100° SUP.	200° SUP.	0° SUP.	100° SUP.	200° F. SUP.	0° SUP.	100° SUP.	200° SUP.
A	$1,733	$4,400	144	99	69	$8,770	$6,050	$4,220	$10,503	$7,783	$8,620
B	4,055	5,100	263	181	127	16,100	11,000	7,750	20,155	15,055	12,850
C	4,325	6,190	384	267	183	23,500	16,300	11,200	27,825	20,625	17,390
D	5,275	6,240	497	342	240	30,400	20,800	14,650	35,675	26,075	20,890

IT IS ASSUMED THAT PUMPS WILL EXHAUST AT 30 # GAGE PRESSURE AND STEAM BE USED IN EVAPORATOR. EVAPORATOR PRESSURE 25 #
TURBINE OPERATING UNDER 200 # LIVE STEAM 200 °F. SUPERHEAT 30 # BACK PRESS.
DUPLEX PUMP " " 200 # " " 100 °F. " 30 # " "
COST OF BOILER PLANT COMPLETE WITH SUPERHEATERS
$61.00 / BOILER HP

PLANT	CIRCULATION IN GALS. / DAY				HORSE POWER FOR PUMP	
	L.O.	FAT OIL	WATER	REFLUX	DUPLEX	CENTRIFUGAL
A	125,000	130,000	375,000	12,500	32	50
B	250,000	260,000	750,000	25,000	60	90
C	375,000	390,000	1,125,000	37,500	88	105
D	500,000	520,000	1,500,000	50,000	115	140

Table No. 6

The exhaust from the turbine will fire a superheated steam above the temperature of the oil in the evaporator and a 150-horsepower turbine will exhaust steam against 30 pounds of back pressure at 429 F.

The balance of superheated steam from the boiler plant is put through heating coils in the evaporator to be de-superheated before being put in the pre-heater.

The steam for the boiler feed pumps should be taken from the preheater condensate tank to remove the air and increase the heating efficiency of the preheater. The condensate from the preheater is pumped back into the boiler without reduction of pressure, in order to save the temperature of the hot water and prevent evaporation.

The water from the primary condenser will be 85 to 90 per cent of the steam admitted to the evaporator, providing the outlet temperature of the vapors from the primary condenser is approximately 150 F.

The balance of the water from the secondary condenser will be from 10 to 15 per cent and will have a temperature of about 75 F. Both will go into the hot well with a temperature of about 140 F.

Boiler feed water is heated to as high a temperature as possible by the exhaust from the boiler feed pump which enables the boiler plant to operate with about 100 per cent distilled water, and also eliminates lubricating oil from the condensate. The author concludes by stating that there is virtually never a need for the use of a condensing plant when exhaust steam can be used.

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New Patents

Prepared by R. E. Burnham, patent and trade-mark attorney, Continental Trust Building, Washington, D. C., from whom copies may be obtained at the rate of 20c each. State number of patent and name of inventor when ordering.

August 20, 1929

REFINING

Oil-cracking means and method—Milton J. Trumble, Alhambra, Cal. Filed Dec. 10, 1925. No. 1,724,982.

Process of treating cracked hydrocarbons—Gustav Egloff and Jacque C. Morrell, Chicago, Ill., assignors to Universal Oil Products Co., same place. Filed July 3, 1926. No. 1,725,068.

Method of cooling the heating-coils of an oil-cracking apparatus—Gustav Egloff and Harry P. Benner, Chicago, Ill., assignors to Universal Oil Products Co., same place. Filed Mar. 23, 1921. No. 1,725,067.

Method of and means for recovering products from fractionating condensers—Lester W. Snell, Wood River, Ill. Filed Aug. 23, 1926. No. 1,725,219.

Hydrocarbon and cracking organization—Milton J. Trumble, Alhambra, Cal. Filed Dec. 24, 1924. No. 1,725,320.

Method and apparatus for converting hydrocarbons—Louis J. Walsh, Belmont, Mass., assignor to Standard Oil Development Co. Filed Nov. 28, 1923. No. 1,725,434.

Process of removing acid-reaction products from oil—John C. Clark, Destrehan, La., Wirt D. Rial, Los Angeles county, and John R. McConnell, Whittier, Cal., assignors to Pan American Petroleum Co., Los Angeles. Filed Oct. 13, 1926. No. 1,725,611.

Process of removing acid-reaction products from oil—John C. Black, Destrehan, La., Wirt D. Rial, Los Angeles county, and John R. McConnell, Whittier, Cal., assignors to Pan American Petroleum Co., Los Angeles. Filed Oct. 13, 1926. No. 1,725,612.

PRODUCTION

Valve-support (for core-barrels)—Louis H. Wallensiek, Houston, Tex., assignor to Hughes Tool Co., same place. Filed Sept. 23, 1926. No. 1,725,235.

Well-drilling tool—Rowland O. Pickin, Los Angeles, Cal. Filed Aug. 2, 1926. No. 1,725,298.

Well-reamer—Rowland O. Pickin, Los Angeles, Cal. Filed Mar. 3, 1927. No. 1,725,299.

Screen-pipe—Milton J. Trumble, Alhambra, Cal. Filed July 19, 1927. No. 1,725,321.

Drilling-rig—George Krell and Guy M. Martinet, Sapula, Okla.; said Martinet assignor to said Krell. Filed Feb. 28, 1927. No. 1,725,458.

Clamp—George Krell and Guy M. Martinet, Sapula, Okla.; said Martinet assignor to said Krell. Filed May 5, 1927. No. 1,725,459.

Oil-well pump—John C. Vroman, Chelsea, Okla. Filed Dec. 27, 1927. No. 1,725,496.

Tubing or pipe pulling spider—Bert H. Morrow, Corsicana, Tex. Filed May 17, 1928. No. 1,725,666.

MISCELLANEOUS

Swing-spout measure having mannually-controlled valve—Scott E. Allen and Ozro N. Wiswell, Los Angeles, Cal., assignors to Swing-spout Measure Co., same place. Filed Jan. 10, 1927. No. 1,725,170.

Air and gas service station—Robert E. Manley, York, Pa., assignor to Manley Mfg. Co., same place. Filed Dec. 30, 1924. No. 1,725,289.

Fluid-pressure-operated hoist—Roy A. Riddle, New Orleans, La., and Ward D. Carpenter, Memphis, Tenn., assignors to Standard Oil Development Co. Filed July 25, 1924. No. 1,725,302.

Combined tank closure and gauge—Richard A. Heileday, Jersey City, N. J., assignor to Standard Oil Development Co. Filed Dec. 31, 1926. No. 1,725,453.

Pressure-relief system—Howard G. Hill, Roanoke, Va., assignor to Texas Co., New York, N. Y. Filed Nov. 1, 1923. No. 1,725,455.

PRODUCTION

Prepared by R. E. Burnham, patent and trade-mark attorney, Continental Trust Building, Washington, D. C., from whom copies may be obtained at the rate of 20c each. State number of patent and name of inventor when ordering.

Oil-well pump—Lee J. Black, Beaumont, Tex. Filed Jan. 4, 1928. No. 1,728,992.

Pneumatic pumping apparatus—George B. Small, Tulsa, Okla., assignor of three-fourths to Tidal Oil Co., same place. Filed Aug. 16, 1928. No. 1,724,857.

Pneumatic pumping apparatus—George B. Small, Tulsa, Okla., assignor of three-fourths to Tidal Oil Co., same place. Filed Oct. 20, 1928. No. 1,724,858.

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Letters to The Editor

Asks About Under-Surface Loading

Editor, NATIONAL PETROLEUM NEWS,

Sir: Please refer to page 104 of the July 17 issue of NATIONAL PETROLEUM NEWS regarding the article (written by George A. Marsh Jr.) on under-surface loading of gasoline. Please advise if you can ascertain for us whether this proposition is unsatisfactory during the winter months due to the fact that, when the flexible hose is drawn out of the tank wagon compartment after loading, the hose might freeze as it is wet, become stiff and crack in various places.

(Signed) Caldwell & Taylor Corp.,
Fred T. Boeschlin,
Treasurer.

Mr. Marsh Answers the Question

Editor, NATIONAL PETROLEUM NEWS,

Sir: Without getting into the freezing temperature of gasoline and without mention being made of the relative merits of different brands of gasoline, a brief recital of the history of our own unloading hose will answer this possible objection and others.

For a period of 3½ years we have used continuously the same length of 1½-inch, fabric covered metal hose. When not in use it is looped over the end of the discharge pipe, fully exposed to the elements, day and night, summer and winter. On cold mornings we have found this hose covered with ice and snow, but there has never been any sign of damage to any part of the hose. We have observed the same thing in other lengths of hose so exposed, and have never seen one damaged from freezing.

One of our drivers has a great propensity for dragging the truck-tank unloading hose over the highways with disastrous results to the hose. When this occurs we uncouple the undersurface loading hose and use it on the truck until a replacement can be made. It has performed double duty several times and at the present time it appears to be as good as new and has never caused us any delay.

While this reads like a testimonial letter and is a record that any hose manufacturer could feel proud of, it proves beyond doubt that users of under-surface loading can expect trouble free service if a good brand of hose is used.

(Signed) George A. Marsh Jr.,
P & M Oil Co.,
Grand Junction, Colo.

Dear Editor:

Upon my recent return from my vacation, I found awaiting me several copies of the NATIONAL PETROLEUM NEWS that had arrived during my absence, and I have just read in the issue of July 24 your comment on "The So-Called Passing of The Oil Jobber."

I am an Independent jobber operating in Akron and vicinity, under the name of The Benzol-Cumberland Co., and since I am always very greatly interested in receiving the comment, criticism, suggestions, and occasionally the approval of my customers, I am taking the liberty of writing you and commenting upon the fact that you seem to understand so thoroughly many phases of the oil business.

In the editorial above referred to you have expressed the same sentiments which I have so frequently expressed to my friends and competitors as to the reasons for the disappearance of many jobbers, and upon every occasion I have argued that the future is a most promising one for the individual who will follow such principles as you have on numerous occasions pointed out.

I trust you will accept this letter in the spirit in which it is meant. I think each of us likes to feel, occasionally, at least, that he has hit the nail on the head.

C. C. Dilley, President,
The Benzol-Cumberland Co.

Dear Editor:

I was interested in your editorial "The Bottle Is Not a Business Necessity," and R. A. Overholzer's statement, especially since these appeared just before the time for the first convention of the Texas Petroleum Marketers Association.

Liquor will not interfere with the business of this annual meeting. We are requesting equipment representatives not to entertain during our business sessions.

Many questions of great importance to petroleum marketers in Texas will be discussed during this convention and unless all have "clear heads" little benefit will result.

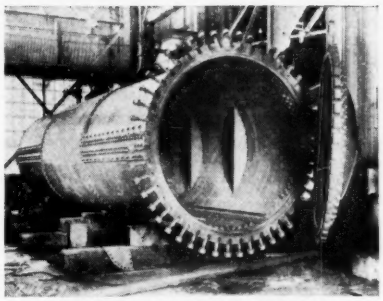
Following Mr. Milne of the Ohio Association the T. P. M. A. re-echoes a hearty "Amen."

With kindest personal regards and extending to you a cordial invitation to be with us in San Antonio on October 3, 4 and 5th, I am

Sincerely,

L. H. Flinn, Executive Secretary & Counsel Texas Petroleum Marketers Association

Oil Refining Equipment



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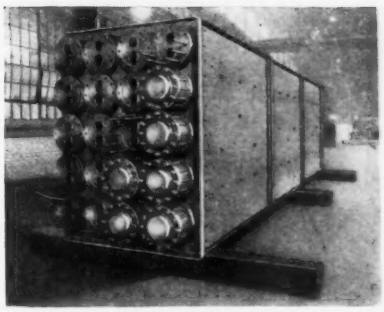
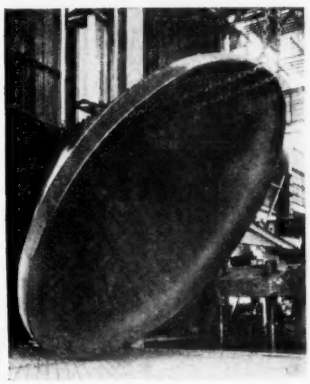
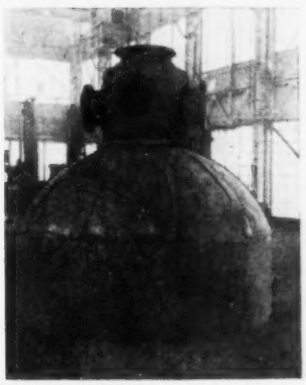


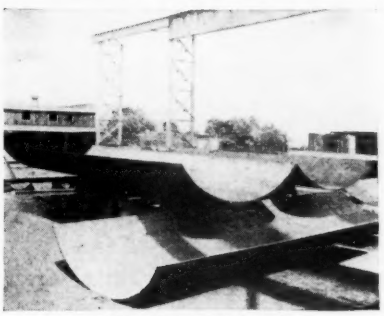
HIGH PRESSURE HEAT EXCHANGER



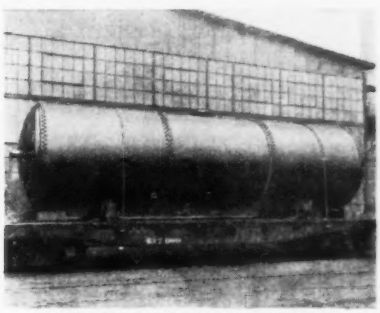
SPECIAL CONE (15 ft. diameter)



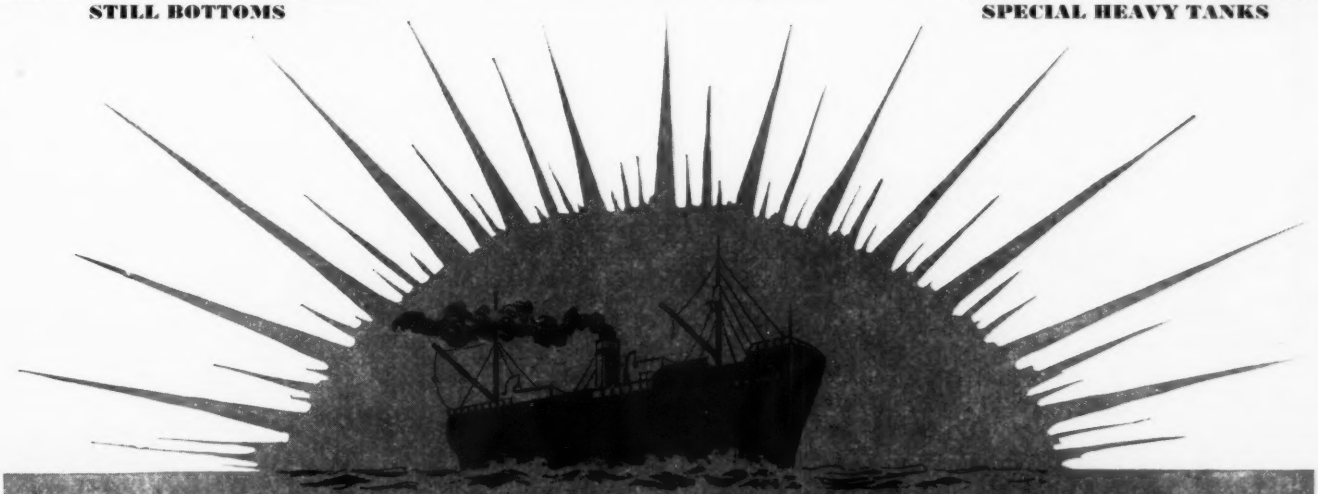
SPHERICAL HEAD (15ft. diameter)



STILL BOTTOMS



SPECIAL HEAVY TANKS



SUN SHIPBUILDING & DRY DOCK CO.

CHESTER, PA., U. S. A.

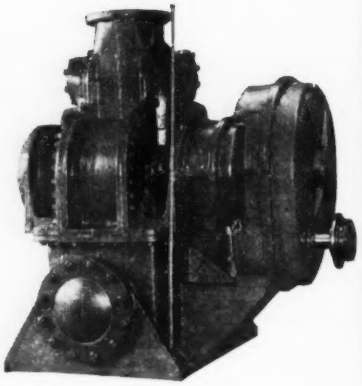
NEW YORK **PHILADELPHIA**

In The Oil Industry

NORTHERN ROTARY PUMPS

"MORE GALLONS PER HORSE POWER"

Northern Loading and Transfer Pumps are handling all grades of crudes, refined oil and gasoline. Northerns are drawing lubricating oils from 28-in. vacuum stills; are putting mineral seal oil into absorption towers against 400 lb. pressure; are recovering and returning pipe line leakage and plenty more tough jobs.



Write for bulletin outlining conditions of service and our engineers will supply complete recommendation.

NORTHERN PUMP CO.

MINNEAPOLIS, MINN.

OFFICES IN ALL PRINCIPAL CITIES

OILGRAM STAFF

at every

Important Oil Center

The OILGRAM has its own staff of trained petroleum market reporters at each of the four major refining and marketing centers—Mid-Continent, Western Pennsylvania, Eastern, Chicago.

These trained men are in close contact with the markets EVERY DAY. That, and that only, is their job.

The OILGRAM is the ONLY petroleum market service which has such an organization for *gathering information at its source*.

Try this daily market service for 3 months. See how profitably it fits into your business; 3 months for $25, or $75 for a whole year, cash in advance.

Send your order with check to the nearest mailing point.

TULSA—904 World Bldg.

CHICAGO—35 East Wacker Drive.

NEW YORK—342 Madison Avenue.

CLEVELAND—753 Penton Bldg.

New Equipment

Continental Can Co., 100 East 42nd street, New York, has purchased the Gille Mfg. Co., Kansas City, Mo., manufacturer of tin containers for oil, coffee, lard and other products. The purchase includes a modern plant in Kansas City with railroad facilities. Harry S. Gille will be business manager of the plant.

* * *

J. F. Lincoln, president of the Lincoln Electric Co., Cleveland, sailed recently on the S. S. Leviathan for London to take charge of a demonstration for European engineers of the electronic tornado process of carbon arc welding which will take place at the Allen Liversidge plant.

* * *

Dill Mfg. Co., Cleveland, is having a nation-wide contest for its retail tire and automotive dealers in which it is necessary for the dealer merely to write a letter to the company telling how important a part tire valves and valve parts play in his service program. The best letter written will receive as a reward a trip to the opening game of the 1929 world baseball series, with all major expenses paid.

* * *

American LaFrance & Foamite Corp., Elmira, N. Y., manufacturer of fire extinguishing equipment, has moved its Utica, N. Y. office and plant to its headquarters at Elmira, in an effort to centralize production.

The company recently published a catalog on modern fire fighting equipment, which lists and describes about every kind of portable fire-fighting equipment on 176 pages.

* * *

Oil Well Supply Co., Pittsburgh, Pa., is marketing its new Horner-Mildren belt stretcher for oil field work. It is made in one size to accommodate belts 14 inches wide and under. It consists of two body parts with a two-sheave pulley attached to each, a wedge for each body part and a section of ¼-inch or 5/16-inch wire rope. Its operation is simple, the company says.

* * *

The Linde Air Products Co., 30 E. 42nd St., New York, describes a pipe bending machine which can be made in any shop, in its August issue of Oxy-Acetylene Tips, company publication. It tells of a foreman of a gas company plant who designed and built such a machine with the aid of the oxyacetylene process, and contains illustrations of how the machine was put together.

Station Salesmen Illustrate Ads Of Pocahontas Oil Co.

BLUE FLASH GYRO
It's the Combination of Better Gas, Better Lubrication and Better Service That Counts
THE POCAHONTAS OIL CORPORATION
BLUE FLASH GYRO
COURTEOUS SERVICE Back of the Product
—the POCAHONTAS PLEDGE
Blue Flash Stations are known for their better products backed by better service.
The same careful measures introduced in the production of Blue Flash Gyro Gas and Veedol Motor Oils are exercised in the selection and training of the attendants who must serve you capably and courteously.
Regardless of what Blue Flash Station you visit you will be impressed by the combination of better Gas, better Lubrication and better Service.
Your criticisms and opinions are earnestly requested for further improvement of our service.
The Pocahontas Oil Corporation
BLUE FLASH — BLUE FLASH GYRO — VEEDOL

Two newspaper advertisements published by the Pocahontas Oil Co. The men are service station attendants who posed for the illustrations

CLEVELAND

TO MAKE service station attendants and the public "service conscious" the Pocahontas Oil Co., operating service stations in greater Cleveland, concentrated its June and July newspaper advertising on better service. A feature of the lay-outs was photographs of attendants taken in uniform at the stations.

"It's the combination of better gas, better lubrication and better service that counts" was the heading of one advertisement. This also sums up the company's merchandising and advertising policies.

The company divides its merchandising policy into three factors: pushing the sale of better gasoline; of better lubrication; and of better service. Motorists patronize a station, N. F. Squire, advertising manager said, not for any one factor but for a combination of the three. Advertising space accordingly is given each factor, a campaign being based on gasoline, service, or lubrication.

All media are concentrated on one subject. In June and July the advertising part of the radio programs, and the billboards also told about the company's service.

Returns from the various advertising campaigns are not computed, but there is proof that the service series was read. Several advertisements announced that toy airplanes would be given to the children at the stations. In a week the stock of 10,000 airplanes was exhausted.

As for the service station attendants the campaign was to impress upon them that the public expects service, and that it is a vital part of merchandising. Pocahontas supervises closely its stations, seeks good men, and the advertisements were intended to be a factor in the supervision.

A morning and an afternoon newspaper in Cleveland were used. Copy for the advertisements, changed for each insertion, was 11½ inches wide by 15½ inches deep.

The advertisements were illustrated with photographs of attendants. Several attendants were picked at random for poses.

Proofs of advertisements were posted in all station windows so the men were reminded constantly of service.

One of the advertisements had the heading "Courteous service back of the product—the Pocahontas pledge."

"Blue Flash stations are known for their better products backed by better service," read the body of the ad.

"The same careful measures introduced in the production of Blue Flash Gyro and Veedol motor oils are exercised in the selection and training of the attendants who must serve you capably and courteously.

"Regardless of what Blue Flash station you visit you will be impressed by the combination of better gas, better lubrication and better service.

"Your criticisms and opinions are earnestly requested for further improvement of our service."

Light Weight Folio

No. 369—A compact outfit. Folio made from heavy 5-oz. smooth black cowhide, with 5½-inch over-all expansion and three inner pockets. Inner case contains six 4-oz. bottles, displayed on a background of red velvet. Each bottle is partitioned separately. Case also contains five grease jars.

Less 10% for Cash

Other styles in our FREE Catalog

L-U-C-E

Builders of Sales Luggage

614 Delaware, KANSAS CITY, MO.

Made to *POUR!*

The Por-Pail is just what its name implies. It pours smoothly .... no gushing .... no choking .... no dripping. The oil goes where you want .... and you have "drop by drop" control.

Users of Por-Pail insist upon it—they like its "handiness". And furthermore—it can be used in a hundred and one different ways when the original contents have been emptied. Your sample is waiting to be shipped—just say the word. *Request it now.*

WILSON & BENNETT MFG. CO.

6520 S. Menard Ave.
CHICAGO
39 Courtlandt St.
NEW YORK

The text of another advertisement was:

"The Pocahontas stations are getting busier every day. The enthusiastic army of Pocahontas customers is steadily growing. Better gas, better lubrication and better service are attracting this new multitude and holding the old.

"Blue Flash Gyro, the pure petroleum anti-knock gasoline is the better fuel. It has the correct summer volatility and packs power to the last drop.

"Veedol motor oils give greater motor protection and are the finest motor oils. Super-heat resisting, they give greater mileage, cut operating costs and save expensive engine repairs.

"Better service has always been our pride. Courteous and efficient station attendants render service which is both thorough and expert.

"We believe that once you give us the privilege of serving you, another satisfied customer will become a permanent Pocahontas enthusiast.

"Your criticisms and opinions are earnestly requested for further improvement of our service."

ON THE LAZY BENCH

National Petroleum News

Young Oswald was an officious young man, as every one in the firm's employ agreed.

He was always horning in where he was not wanted, and he had a highly exalted opinion of himself.

There were two partners in the firm, and one of them happening to pass on, the young man approached the surviving partner, with whom he was not exactly what you could call a favorite.

"I am sorry, sir, to hear of Mr. John's demise, and I have come to ask if you would like me to take his place."

"Yes, I should very much," was the reply, "if you can get the undertaker to arrange it."

—Magnolia Oil News

* * *

Oscar: I'm going to get married next week.

Reginald: What do you want to get married for?

Oscar: To have a home.

Reginald: What do you want with a home?

Oscar: Don't you know? To make home brew in.

—Field Flashes

* * *

Interest Plus!

The club members were discussing laziness. One finally told about his hiking trip through the South. Coming to a stream he saw a mountaineer sitting on the bank against a tree, his hat over his face and a fishing pole stuck under one knee, the line in the water.

"Hello," said the visitor, "been here all day?"

"Yep," was the response from the motionless fisher.

"Catch anything?"

"Dunno."

—Doherty News

Teacher—Give me the formula for Water.

Student—H-I-J-K-L-M-N-O.

Teacher—How come?

Student—You said that it was H^2O (H to O).

—The Booster

* * *

"Jess as I expected! They've gone to sellin' the weather!"

"Whatcha mean—sellin' the weather?"

"Look at that sign: 'August Fur Sale.'"

—Field Flashes

* * *

"Yes, me and Bill are in partnership in this selling game, but we don't carry the same goods."

"Explain yourself."

"Well, Bill goes around selling stove polish that leaves a stain on your fingers, and two days later I go around with the only soap that will take it off."

—Heil Quality News

* * *

Visitor: "It is not often that I get such a good dinner."

Little Joe: "Neither do we, Mr. Jones."

—Magnolia Oil News

* * *

Two negro soldiers were discussing the relative merits of their company buglers.

Said one, "Fellah, when dat boy of ouahs plays pay call, it sound 'zactly like de Boston Symphoney playin' de Rosary."

The second colored boy snorted. "Brothah, you ain't got no bugler a-tall. When Snowball Jones wraps his lips aroun' dat bugle of his, an' play mess call, I looks down at mah beans, an' I sez: 'Strawberries, behave! You is kickin' de whipped cream out of de plate."

—The Booster

SALESMANSHIP—

Demands Thorough and Tactful Meeting of Customer Complaints

By R. H. Thomas*

AFTER the customary introduction of Mr. Jackson to Mr. Johnson, Henry—in Mr. Johnson's presence, told Jackson that Mr. Johnson had experienced some valve trouble after using Ethyl gasoline and that he had enjoyed none of his business since.

"Well, that's too bad," remarked Jackson. "Was your engine in good mechanical condition when you put Ethyl gasoline in your tank?"

"It certainly was," replied Johnson.

"What kind of car do you own, Mr. Johnson?" was Jackson's next question.

"It's an Oakland," was the reply.

"I presume you had your car overhauled this spring before you tried using this new fuel—if you are certain the engine was in good mechanical condition."

"Yes siree," came the quick response. "And I didn't drive the car more than 2,000 miles afterwards before I commenced having trouble—poor compression and limited power."

"Did the engine run quietly and smoothly after the overhaul job?" asked Jackson.

"I'll say so—she ran as quietly as a Lincoln or a 'Cad' for a while—and then I thought I'd try using this new fuel so highly recommended by Henry here—and it was not long till the devil was to pay. I took the car back to the garage and left it; and when the boys took the head off and saw what had happened—they called me over the phone and asked me to come and take a look at the results of using Henry's wonderful motor fuel.

"Well, I came down and they showed me the burned valves and pitted valve seats. I asked them what caused it—and they said, 'Nuthin' on earth but that "doctored" gas you've been usin'—just look at that red stuff all over everything,' says one of the fellows, and believe me, there was plenty evidence there all right. Gosh, I was mad enough to lick somebody when I had to pay

"Winning an Argument with a customer usually means losing the sale," says Mr. Thomas through his character Earl Jackson.

Instead of arguing Jackson gets over his point by telling of all the trouble "Doc Stankey" had and how he found out that it was a motor adjustment and not the gasoline.

Tell an interesting story, a parable if you want to call it that, and you arrive at the same place without an argument and without making the customer sore.—Editor.

*Author of "Merchandising of Petroleum Products."

OTTAWA LIFT

Hydraulic Oil Supported Rotating

Supplied in both free Wheel and drive-on types.

UP —and Earning!

You wouldn't keep gasoline in cans, measure it out and fill the tanks of your customers' cars through a funnel! Just as you've installed up-to-date gasoline pumps to increase your service and help you sell more gasoline, the Ottawa Lift is the modern method of selling greasing service and increasing your profits. Easily operated from your air compressor, the Ottawa Lift is safe—and it saves time!

Get the "Passing" Business

It's the "passing" business that now goes on down the street for speedy, up-to-date greasing service that will increase your profits. With the Ottawa Lift you can cash in on the "passing" business.

The Ottawa Lift is made to last a lifetime. It is easily installed from instructions furnished. Oil supported, nothing to wear out, only one moving part. Made in both Free Wheel and Drive On types.

(Write us today for full particulars—also prices of Ottawa Visible Pumps, Air Compressors and Air Towers.

OTTAWA MFG. CO.
225 Fuller St.
Ottawa, Kansas

HIGH GRADE PETROLEUM PRODUCTS

Made by the Oldest Pennsylvania Oil Refiners

CYLINDER STOCKS, (Filtered and Unfiltered).
MOTOR OILS—to match any specification.
High Grade Burning Oils.
300° Mineral Seal and Railroad Oils.
High Grade Transformer Oils.

A. D. MILLER SONS' COMPANY
PITTSBURGH, PA.

for regrinding those valve seats and diggin' up for new valves to replace the others which would o' lasted a lifetime usin' an ordinary good grade of gasoline."

"Doesn't it seem rather strange to you, Mr. Johnson, that the General Motors Co. would make a good car like your Oakland—and then spend hundreds of thousands of dollars to develop Ethyl fluid to put into the the gasoline and recommend it for use in their cars, if its use would actually ruin the cars they were manufacturing and selling? If this compound proved destructive in use, I am sure they would have discovered that fact long before they placed it at the disposal of gasoline marketing organizations throughout the length and breadth of this land.

"Your complaint is not the first of this kind which has come to our attention. As a matter of fact, Doctor Stankey had an experience similar to yours—and after the boys at the garage showed him the warped valves, pitted seats, etc., he was about ready to tell both of us—Henry and me—where to head in.

"JUST because both you and 'Doc' Stankey bought your cars from them, it is perfectly natural that you'd consider their information as being reliable.

"'Doc' was pretty sore—and a little bit difficult to reason with on the start; but when I suggested to him that he write to the General Motors Co. direct, asking whether they used a cheap set of valves in the Oakland car; or if burned valves were the result of using Ethyl fluid—he sort o' perked up and asked if the manufacturers of Oakland cars were also responsible for the compound 'Ethyl' so extensively sold in gasoline.

"Well, I told him that the General Motors Co. was both 'Pa' and 'Ma' to both products, and that the company had too much at stake—in money and public good will—reputation—to experiment at the expense of its customers.

"'Doc' is no fool—he's a mighty bright man—and he saw the point instantly.

"Says 'Doc' to me—'Jackson, what in thunderation caused those valves to burn then—do you know?'

"Well, for years I was in the engine business myself—years before anyone heard of 'knock suppressants' or imagined there ever would be such a thing—and we had plenty of valve trouble in those days. I told 'Doc' we'd always continue to have valve troubles as long as mechanics did not learn to allow sufficient clearance between valve stems and tappets. I told him how heat caused the valve stems to elongate—get longer—until they rode on the tappets, resulting in inability of the valves to close and seat properly, and explained to him that when the valves could not seat, the

TRIPLEXD INSURED GASOLINE PUMP HOSE will be adjusted on the basis of 1000 days for ANY failure of service, short of fire or theft

ALL sizes and lengths of Triplexd Hose are carried in stock in these cities:

Triplexd Tank Wagon and Tank Car Hose and all other sizes of Triplexd will always be repaired free of charge at our factory

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The Dixie Culvert & Metal Company
P. O. Box 1343

Boston
Oilmen's Service & Supply Company
142 Berkeley Street

Brooklyn
Metal Hose & Tubing Company
236 Tillary Street

Chicago
Amco. Sales Corporation
1213 West Washington Boulevard

Cincinnati
The Doermann-Roehrer Company
450 East Pearl Street

Cleveland
Amco Sales Corporation
4336 Broadway

Denver
Eaton Metal Products Company
4800 York Street

Detroit
Amco Sales Corporation
5459 Grand River Avenue

El Paso
Metal Hose & Tubing Company
P. O. Box 599

Wichita Falls
Metal Hose & Tubing Company
P. O. Box 1327

Houston
Peden Iron & Steel Company
700 North San Jacinto Street

Jacksonville
The Dixie Culvert & Metal Company

Kansas City
Butler Manufacturing Company
13th Street and Eastern Avenue

Los Angeles
Metal Hose & Tubing Company
1021 Santa Fe Avenue

Louisville
Ben F. Offutt & Company
1120 Heyburn Building

Memphis
Alton & Burge
245 Monroe Avenue

Minneapolis
Butler Manufacturing Company
900 Sixth Avenue, S. E.

New Orleans
The Coe Belting & Supply Company
211 South Peters Street

Omaha
A. N. Eaton, Metal Products
13th and Willis Streets

Pittsburgh
Rutledge Equipment Company
341 Second Avenue

Richmond
Richmond Engineering Company
P. O. Box 514

Saint Louis
Metal Hose & Tubing Company
1621 Pine Street

Salt Lake City
Lang Equipment Company
267 West First South Street

San Antonio
Peden Iron & Steel Company
1401 South Flores Street

San Francisco
Metal Hose & Tubing Company
469 Bryant Street

Toronto, Canada
Dunlop Tire & Rubber Goods Co., Limited
870 Queen Street, East

London, England
J. Bazley-White
3 Love Lane
Eastcheap, E. C. 3

METAL HOSE & TUBING CO.
INCORPORATED
236 TILLARY STREET
BROOKLYN, N.Y.

TRIPLEXD GASOLINE HOSE

If You Send Us A Trial Order Today
We Make This Prediction—
That On Your Next Order You Will Specify
SUPERIOR QUALITY PRODUCTS

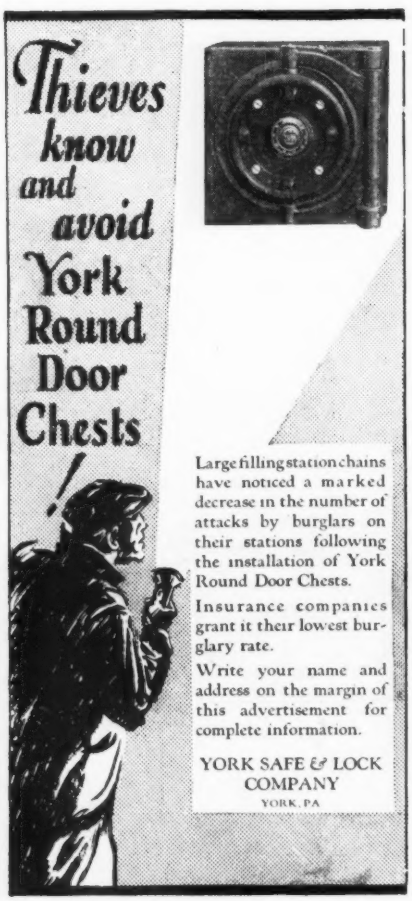
A TRIAL TODAY
A Customer Tomorrow

The Trial Order tells the consumer the truth at all times—if it discloses products of quality and if the delivery is made on time, with each tank car, drum, or container in good condition—in short, if it ranks 100 per cent, in all ways then you will be fully satisfied.

Superior Oil Works
Warren, Pa.

Solicits The Trial Order Test.

We Specialize in
Penna Straight Run Gasoline
Water White Kerosene
36/40° Light Fuel Oil
300 Mineral Seal
Cylinder Stocks and Neutrals


Thieves know and avoid York Round Door Chests!
Large filling station chains have noticed a marked decrease in the number of attacks by burglars on their stations following the installation of York Round Door Chests.
Insurance companies grant it their lowest burglary rate.
Write your name and address on the margin of this advertisement for complete information.
YORK SAFE & LOCK COMPANY
YORK, PA.

heated gases of combustion seeped by the valves, causing them to get red hot and warp out of shape, and their seats to become badly pitted.

"Well, 'Doc' just soaked up the information I gave him. What I told him sounded reasonable to him—and he knew that I couldn't afford to lie to him—and surely get caught up on it later. Anyhow, the next day he went over to the garage and told Phil—over there—he was trading his Oakland off for an Essex.

"RIGHT away Phil wanted to know 'What's eating you now?' 'Well,' says 'Doc,' 'You told me the use of Ethyl in my gasoline ruined the valves and so forth—didn't you?' Phil said, 'I guess I did.' 'Well,' said 'Doc,' 'If the General Motors Co. have tossed public good will and their own reputation into the garbage can—they can cross me off their list.'

" 'Doc' put up a good front—acted serious—and believe me he got under Phil's hide.

" 'If you're serious, "Doc," ' said Phil, 'What's the trouble anyway?'

" 'Just this,' answered 'Doc,' 'If the General Motors make good cars so they can sell them to 'suckers' like me, and then allow us to ruin these same cars using the rotton knock suppressant they invented and persuaded gasoline marketing companies all over the country to handle, it's about time to call a halt.'

" 'Before they ever put this Ethyl on the market they must have known—darn well—or should have known—that it would ruin valves faster'n you could put 'em in, and I guess that's what you fellows are doin' a good share of the time.'

" 'Now "Doc," ' said Phil, 'You just leave that car here this afternoon—take my coupe until I return your own car. We'll look it over and she'll be running like a top when you get it back.'

"Well, sir, they had gotten wise—all they did was to adjust the tappets properly and I'll bet a silver dollar against a stogie cigar you can't get a peep out of them about Ethyl burning out valves now—because they know better.

"However, they're not traveling around the country telling men like you and me that they made a mistake when they misinformed us about Ethyl. They are afraid to lose business by reversing themselves after the powerfully ignorant statements they made; but they now know what causes valves to burn and they have learned how to properly adjust them too."

"Do you mean to tell me," questioned Johnson, "That Service Ethyl gasoline had nothing to do with my valves burning up?"

"Exactly," replied Jackson, "I use the same gasoline all the time in my Ford car, and I am sure you do not consider the Ford a better car than yours—and I have never had the head off in more than 25,000 miles; but my valves have had a chance to seat."

"If you don't mind, let's take a look at your Oakland," suggested Jackson.

The tappets were checked up cold, and there was a clearance of only three thousandths on the intake and five thousandths on the exhaust.

"No wonder you're having valve trouble—they are set entirely too close right now," said Jackson. "With your permission, we'll start the engine and let her run until she gets good and hot—and then I'll make proper adjustment when the engine is running—it won't take but a few minutes. What do you say?"

"It's all right with me, if you can do it," was Mr. Johnson's response.

In a few minutes Jackson had eliminated the cause of lost compression, burned valves and pitted valve seats. Then he turned to Mr. Johnson and said, "Now I want Henry to bring you 50 gallons of Service Ethyl gasoline day after tomorrow, and have you use it exclusively—until it's all gone—so you may know for yourself that what I have told you is true. You can drive as far or as fast as you care to, and I'll guarantee you'll have no further valve trouble.

"I'd thank you for letting Henry bring this gasoline day after tomorrow, if that will be as convenient for you as any other time—won't that be all right?"

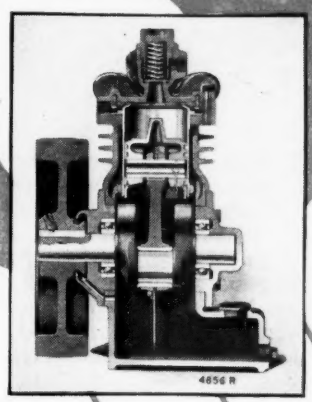
"Well, I've got a few gallons in the barrel there yet and I'd like to use that up first."

"WHERE is your barrel?" asked Jackson, and when it was pointed out to him, he went over to it—ran an apron slat down the bung—and told Johnson there was not more than seven or eight gallons in it. "Let's see," he said. Then he checked up to see how much gasoline the Oakland car would hold and found it would take five gallons. Then he said to Mr. Johnson, "Let me put five gallons in your car and I'll put the other two or three gallons in my car and I'll pay you for it—then I'll call Henry's driver this noon and instruct him to fill your barrel this afternoon—because he's coming right out this way.

"You know, Mr. Johnson, the thing we value more than anything else on earth is the friendship and good will of our customers. Henry's driver will probably deliver that gasoline to you at about three or four o'clock this afternoon—and that'll be all right with you, won't it?" casually inquired Jackson.

"Oh, I guess so," replied Johnson. "I swore I'd never use any more of that stuff; but if you're sure it's all

3 Big Advantages *with* the Sleeve Valve Air Compressor

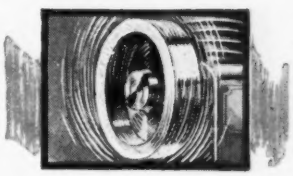


Sleeve Valve Design!

Patented and exclusive! The greatest forward step in air compressor design in years—yet only a means to an end! The attainment of high speed operation made direct connection to electric motor possible. Direct connection eliminated belts. And "no belts" permitted compactness—a mighty important advantage in these days of making small space give great service.

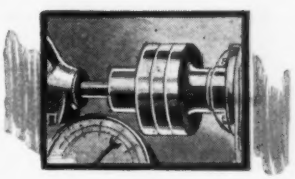
1 High Speed

The extreme small lift of the mechanically operated Sleeve Valve (less than $\frac{1}{64}$") makes possible quiet and efficient operation at 1160 R.P.M., with very conservative piston speed of less than 350 ft. per minute.



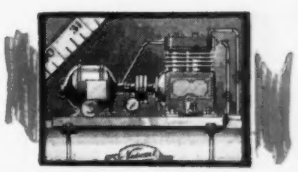
2 No Belts

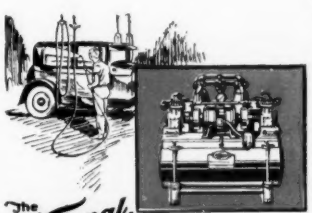
Perfect functioning at high speed eliminates entirely the need for belt, idler or gears. Compressor is connected direct to motor. No slipping, flapping belts or grinding gears.



3 Compact

The close coupling of motor to compressor and the elimination of a compressor flywheel saves valuable space.



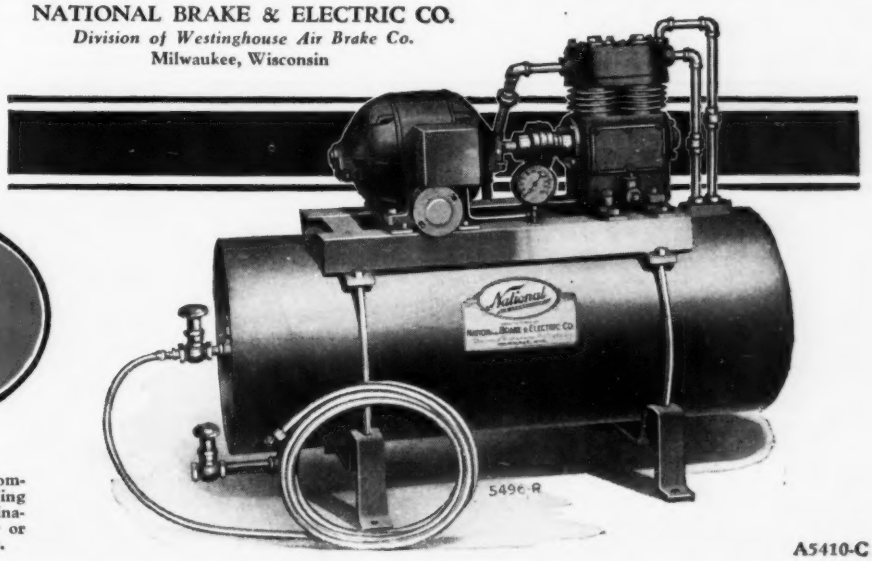


The National AUTO LAUNDRY SYSTEM

Another National achievement. Carburetor-like mixing produces the first truly uniform, atomized spray of air-and-water capable of cleaning the dirtiest car, inside and out, in 20 minutes, yet entirely non-injurious to the finest finishes. Write for descriptive literature.

Write for Catalog No. B 830

NATIONAL BRAKE & ELECTRIC CO.
Division of Westinghouse Air Brake Co.
Milwaukee, Wisconsin

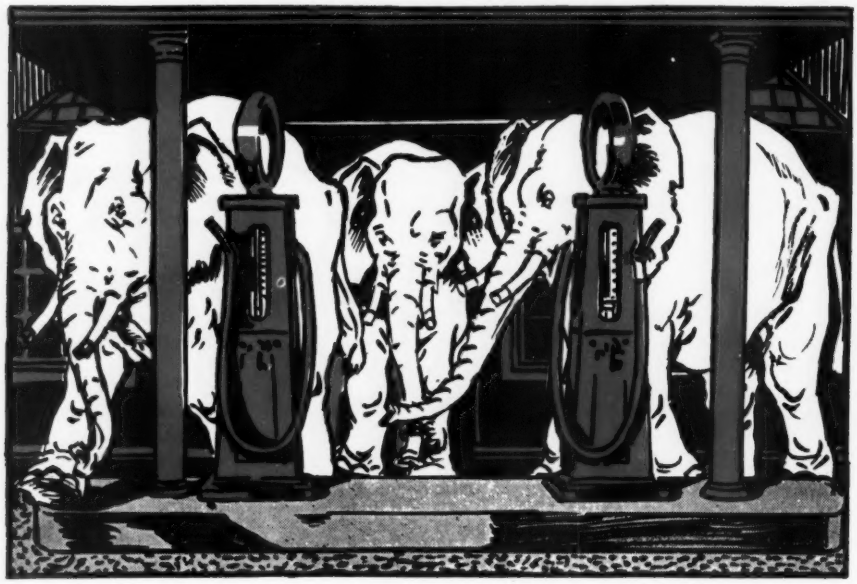


National SLEEVE VALVE TYPE AIR COMPRESSORS

Model shown is an SVEH-9-15¾ cu. ft. air compressor equipment with self-contained water-cooling system. Nationals are built in many other combinations with single and two cylinder models (air or water cooled) from 2½ to 22¾ cu. ft. sizes.

A5410-C

A Service Station Is No Place for WHITE ELEPHANTS



Modernize for More Sales with *Wizard* Equipment

Check up on your service station. If it is bulging with "white elephants"—inadequate, out-of-date equipment that eats its head off in overhead expense without a profit return—clean house!

Modernize for *More Sales* by installing *Wizard* Oil Units. Efficient, good looking, designed for their jobs, *Wizard* Units make ordinary dispensing equipment look like awkward office boys.

Natural Born Salesmen

The ability to sell, not just dispense oil, is born in *Wizard* Units. From blue print to finished product sales ability is built into *Wizards*. *Wizards* are sold to you not just to hold oil but to *Sell* it.

We have service station proof if you'll ask us to produce it.

THE
NATIONAL STEEL BARREL CO.
3860 East 91st St. Cleveland, Ohio
FACTORIES
Cleveland New Orleans

Export Department
R. Meyer, 487 Broadway
New York, U. S. A.

Cables - Rymer - New York
Codes - A-B-C-5th Ed. Bentley's

WIZARD
FOR PROFIT
OIL - GREASE - KEROSENE - ALCOHOL - EQUIPMENT AND STEEL BARRELS

STEEL
DRUM ACCESSORIES
CORPORATION
BUFFALO, NEW YORK
"The House of Drum Faucets"

right, I'm willing to give it another trial."

He hesitated a moment, and then went on—"Mr. Jackson, I've had all kinds of oil men come out to try to sell me their products, but you're the first man who ever gave me any real information—and the only one who ever knew anything about machinery—and how to adjust it—and make it work. About all those other fellows ever did who called on me was to talk a lot an' say nothin'—only that they had the best stuff on earth."

"WELL, Mr. Johnson," was the answer, "I love my work—if I didn't, I wouldn't stay at it fifteen minutes. I don't know of a single company in the oil business which does not manufacture and sell good products; but it takes more than quality products to secure and hold business today. A man must give outstanding service to his patrons and he can't do that unless he is keenly interested in his customers' problems and in their welfare.

"I was born and raised on the farm, and I know of some of the problems which are of vital importance to the farmer. The success I have had to date in dealing with farmers may be attributed to having interested myself in their welfare. Why shouldn't I—my father was a farmer and my mother a farmer's wife?

"By the way, Mr. Johnson, when I happened to kick your lubricating oil barrel while in the garage, it sounded rather empty. Here's our proposition on our new oil: You have a McCormick-Deering tractor—it's a dandy too—which you undoubtedly use about 40 days each year and you have an Oakland car. This new heavy oil is exactly suited to both of these pieces of equipment, and it's the most economical oil to use that can be purchased at any price.

"A barrel of that would just about take care of your requirements for the rest of the season—and by ordering it right now, you won't need to waste a lot of time later talking to oil men—you can just tell them you have ordered what you will need for this year—and that'll be the end of it.

"You won't use nearly as much of this oil as you would be compelled to use of ordinary oil—and honestly—when the service it gives is taken into consideration—it's just awfully low priced."

"What's the price?" queried Johnson.

"Why, only 78c per gallon."

"I don't call that cheap," Johnson responded. "I've been paying only 49c per gallon for heavy oil—and I haven't had any trouble with it either."

"That's very true," was Jackson's nimble answer. "But the oil you now use should be changed twice as

often as what I am offering you. Twice 49c is 98c. Subtract 78c from 98c and you find that the oil which is higher priced, is really 20c per gallon cheaper than what you are now using—and besides—it has better lubricating properties which add to the life of your machinery.

"I take no pride in selling oil. My highest ambition is to sell service. It's not the liquid in the lubricating oil barrel you are paying for—it's the lubricating service it possesses, which will add to the life and efficiency of the machinery you operate.

"TAKE me at my word, Mr. Johnson." he continued. "Let me have Henry's driver bring that barrel out to you this afternoon and you'll be all set for the rest of the season. O.K.?"

"Well, by George," ejaculated Johnson. "I guess I'd better let that part of it go now—I'm a little short on cash. I can try it out later."

"Listen, Mr. Johnson," said Jackson. "You used to buy all your requirements from the Service Oil Co., and I happen to know that we always got our money from you for every dollar's worth of merchandise delivered. We will be glad to welcome you back into the family circle again—and I'll have Henry's driver bring out that barrel of oil this afternoon and you can pay for it a month from now. How's that?"

"Well, all right then," consented Johnson, after which Henry and Jackson bade the regained customer good-by and started out for George Chess' place.

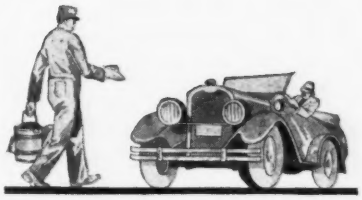
Shortly after Jackson and Henry drove out of Mr. Johnson's yard, Henry said to Jackson, "That's once I learned something."

"What's that Henry."

"Well, Mr. Jackson, it did me good to hear you tell Mr. Johnson that story about 'Doc' Stankey. The case was absolutely parallel in every way and just because you appeared to be telling him a story about 'Doc', he listened intently and took it all in, and I watched the expression on his face which told me just as plainly as though he had spoken, that his idea of Service Ethyl was changing.

"You know, when we started out together, I expected to listen to some real hot arguments, but I am learning that you have a much better way of selling merchandise. Most of the fellows I've been out with, got into arguments and the result was that we had to drive away without getting much business."

"I guess you're right, about that, Henry," said Jackson. "An old manager of mine told me years ago that winning an argument with a customer usually meant losing the sale. The greatest Salesman who ever trod this earth did not argue, but spoke in parables, and His achievements are today the miracle of the world."



"Check the Radiator, Sir?"

No trouble at all with the

Brookins Water Can

THE Brookins Water Can is designed to make radiator servicing easy.

Note the little hook formed by the spout. This hook is a special Brookins feature. Anchor it to the neck of any radiator. Then pour till it's full. The can remains steady. There's no water spilled on the hood or down the front of the radiator. And you don't get stiff arms from holding the heavy can.

You *need* the Brookins Water Can just as you *need* Brookins Oil Measures. Of course, the Oil Measures may pay for themselves a little more quickly, but the Water Can too pays real profits. It saves time, effort and money. It helps to sell your service and your station.

And the Water Can is built like *all* Brookins equipment . . . to stand knock-about service. It's made of heavy gauge terne plate with special reinforcements. Try to dent one of these Water Cans. It's practically impossible!

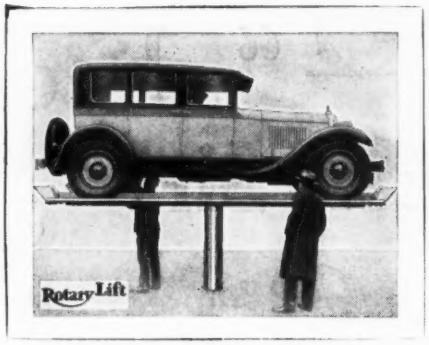
See your jobber salesman

Ask your jobber salesman to lend you one of the Brookins Water Cans. Test it yourself. Then decide to complete your equipment with the Brookins Water Can. If your jobber doesn't happen to handle Brookins equipment we will refer you to the nearest one who does.

BROOKINS MANUFACTURING CO.
Hawthorne & Albany Sts., Dayton, Ohio

"An honest measure for honest oil"

Each Brookins item is designed to fill a definite filling station need. They're priced so that *any* station can afford them.



Model 88B, The "Oil Marketer"

The Preferred Lift of the World's Largest Petroleum Marketers

Oil marketers prefer Rotary Lift because it is the most convenient lift for their customers ever built. It is the easiest lift for them to drive on because the runways are unusually wide and the low set approaches are hinged, making a perfect contact with the floor surface.

There is no short, steep incline to drive up. No narrow channel to drive on.

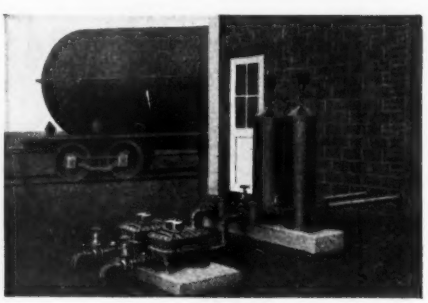
Rotary Lift is easy to keep clean and inviting. Its simple design and construction are attractive.

When the car is elevated all service points are clearly visible, giving the customer the satisfaction of seeing that the work is thoroughly done.

Specify Rotary Lift, the choice of oil marketers, for your service stations.

Automobile Rotary Lift Co.

MEMPHIS, TENN.



GRANBERG PETROLEUM METERS *give precise measurements of* **Petroleum Products**

Use them to check your **TANK CAR** receipts and you will be sure of the amount with which your station should be charged.

Our Engineering Department is at your Service.

Send for our literature.

GRANBERG METER CORPORATION

"Precision Meters for Petroleum Oils."

79 New Montgomery St. **San Francisco, Calif.**

New Stations Building

Ratcliff, Ark.—Earl Patterson, filling station.

Moweaqua, Ill.—Standard Oil Co., filling station.

South Bend, Ind.—Independent Oil Co., Laporte, Ind., service station.

Marion, Ohio—R. C. Wolfel, filling station.

Oxford, Ia.—Standard Oil Co., filling station.

Mt. Carroll, Ill.—Vern Kleckna, filling station.

English, Ind.—C. J. Sams, filling station.

Waterloo, Ia.—Shell Petroleum Corp., St. Louis, filling station.

Burlington, Kans.—Shell Petroleum Corp., filling station.

Henderson, N. C.—J. W. Jenkins, service station.

Emmetsburg, Ia.—Shell Petroleum Corp., bulk station and filling station.

Roundup, Mont.—The Texas Co., filling station.

St. Joseph, Mo.—Skelly Oil Co., service station.

Leon, Ia.—C. P. Davis, filling station.

Madrid, Ia.—Elmer Koch, bulk station.

Nebraska City, Neb.—The Texas Co., filling station.

Devils Lake, N. D.—Robinson & Edelman, filling station.

Marion, O.—The Texas Co., filling station.

Maple City, Kans.—Sinclair Refining Co., filling station.

Ft. Worth, Tex.—White Eagle Oil & Refining, two filling stations.

Bridgeton, N. J.—A. W. Fisher, service station.

Richmond, Va.—South Penn Oil Co., filling station.

Somerset, Ky.—J. H. Spradin, filling station.

Kingston, N. Y.—A. R. Newcomb Oil Corp., service station.

Wilmington, N. C.—Gulf Refining Co., filling station.

Grinnell, Ia.—C. M. Harris, filling station.

Grinnell, Ia.—W. M. Kaloupek, filling station.

Evansville, Ind.—Pride Bros., service station.

Mt. Prospect, Ill.—Wolf Coal & Oil Co., service station.

Barry, Ill.—J. S. Lamp, filling station.

Toulon, Ill.—Champlin Refining Co., filling station.

Lansing, Mich.—Angelo Fata, filling station.

Bloomingdale, Mich.—Hubert Hanson, filling station.

Millersburg, Ohio—I. F. Kirkendall, filling station.

Mt. Gilead, Ohio—The Texas Co., service station.

Martinsville, Ind.—Ralph Martin, service station.

Laurium, Ind.—Sinclair Refining Co., filling station.

Somerset, Ky.—Gulf Refining Co., service station.

Corsicana, Tex.—Central Texas Refining Co., service station.

Rogers, Ark.—Phillips Petroleum Corp., service station.

Springfield, Mo.—Shell Petroleum Co., filling station.

Des Moines, Ia.—Cities Service Oil Co., filling station.

Minneapolis, Minn.—The Texas Co., filling station.

Minneapolis, Minn.—W. C. Bissonette, filling station.

St. Paul, Minn.—G. M. Taylor, filling station.

Minneapolis, Minn.—White Eagle Oil & Refinery Co., service station.

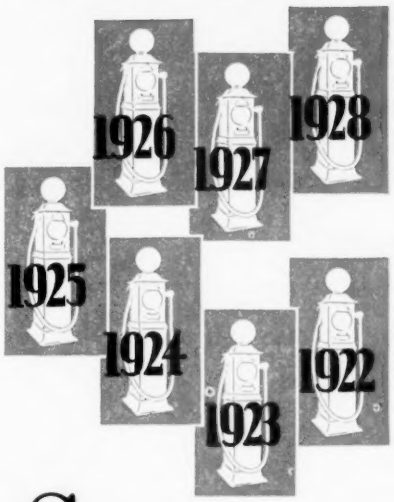
Minneapolis, Minn.—Rock County Co-Operative Oil Co., service station.

Litchfield, Minn.—Standard Oil Co., filling station.

Manchester, Ia.—Mid-Continent Petroleum Corp., filling station.

SEVEN YEARS *of* LEADERSHIP

The Background for the Improved 1929 Erie Meter Pump



SEVEN YEARS spent building meter pumps exclusively; seven years working shoulder-to-shoulder with oil marketeers on their gasoline dispensing problems; twenty-three thousand Erie Meter Pumps in daily use.

That is what stands behind every Erie pump; that is why you can be sure the "bugs are worked out"; that is why you get experience—not experiment.

When you buy an Erie you buy the added value that seven years manufacturing experience alone can give.

Erie Meter pumps meet every requirement of the U. S. Bureau of Standards. Official sealers in states and municipalities everywhere have approved Eries. 23,000 Erie Pumps will measure out over six billion gallons of gasoline during 1929. Erie accuracy is assured.

Many service stations have done away with cash registers, depending on the record furnished by the Erie total gallonage recorders. You will find this a valuable protection against losses.

WHEN YOU BUY AN ERIE YOU BUY EXPERIENCE—NOT EXPERIMENT

Erie Meter Pumps are correctly engineered. Erie has met, solved and profited by the problems presented in seven years' experience. The design gives maximum beauty of appearance and accessibility. Erie is seven years ahead of competition in engineering and design—for it alone has those years of experience. Consider this point carefully.

Rugged construction in every detail insures unfailing service. Erie field-experience with 23,000 pumps has pointed the way to build a mechanically superior pump.

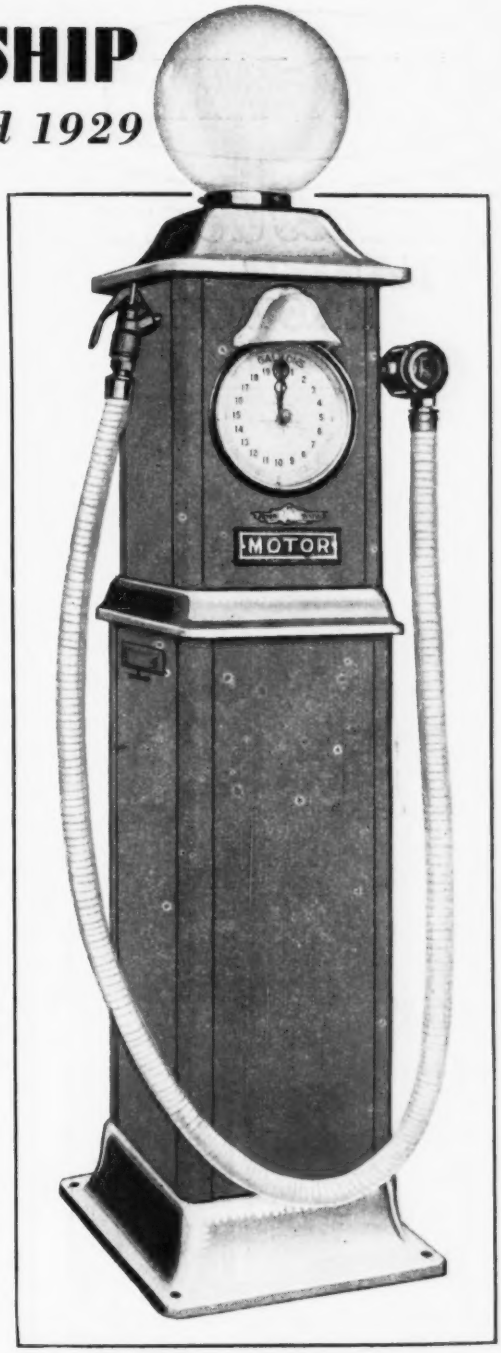
Erie was the pioneer builder of electric meter pumps. And today Erie builds the LEADING meter pump. For into it goes the priceless knowledge that can be gained only through experience.

The meter pump is the pump of today. All other types are rapidly being rendered obsolete. For only the meter pump can give the rapid service demanded by today's motorists. Your investment in an Erie will be a permanent one.

Invest in an Erie and you will be sure that you are paying for proven experience—not for guess-work and experiment.

If you are not now receiving the Erie Meter Dial, use the coupon. You will find it full of valuable information.

ERIE METER SYSTEMS, INC.
1801 Wagner Ave. · · Erie, Pa.



Seven Reasons

1. 5-year service guarantee on meters
2. Field tested performance
3. Big 10-inch dial meters
4. Attractive cabinets—strong and durable
5. V-groove belt drive on hand-electric pump
6. Positive correct total gallonage registers on each meter.
7. Continuous, trouble-free service

ERIE METER SYSTEMS, INC.
1801 Wagner Ave. · · Erie, Pa.

Please send me the Erie Meter Dial each month. Also full facts on Erie Meter Pumps.

My Name _____

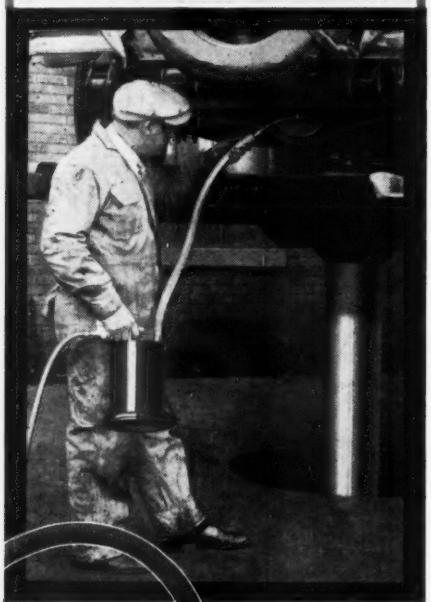
Address _____

City _____ *State* _____

ERIE
THE ERIE METER SYSTEMS INC.
ERIE, PENNA.

Bennett Pumps Corporation
One Hand Portable
AIR-WAY
Flusher
Muskegon, Michigan.

Flushes Gears
EASIER
FASTER
CLEANER



Attaches Directly to Any Air-Line

The Bennett 100% "AIR-WAY" Flusher reduces rear axle and transmission grease to a liquid and removes it more thoroughly and more rapidly than has ever before been done—yet it sells at only a fraction of the price of all previous Flushing-Type cleaners.

It has no moving parts—simply attaches to any air line and alternately injects and sucks out cleansing oil or cutting oil until gears and housing are clean. Its powerful injection stream and suction pull are amazing—the finest, fastest, handiest and most satisfactory flusher in existence—regardless of price.

BENNETT PUMPS CORP., Muskegon, Mich.
SERVICE STATION EQUIPMENT CO., Ltd., Toronto and Winnipeg
REPUBLIC STEEL PACKAGE CO. OF CALIF., Richmond, Calif.
BENNETT EXPORT CORP., 32 Broadway, New York

Write for "AIR-WAY" Bulletin

Along the Air Lanes

What is claimed to be the first aerial filling station is that through which The Texas Co. refueled the Spokane Sun God in the air, which recently completed the first round-trip, non-stop, refueling flight across the continent. This plane, piloted by Lieut. N. B. Mamer and Art Walker, was refueled in the air at Cleveland, at Roosevelt field, New York, and again at Cleveland on the return trip by The Texas Co., which chartered planes of the Curtiss Flying Service for this purpose, thus making what the former calls the first leased Texaco service station in the air.

The Texas Co. furnished the fuel and lubricants for this plane at the points mentioned above, according to Capt. Frank M. Hawks, aviation superintendent.

The Sun God flew from Spokane to New York and back, in 120 hours, and 2 minutes, setting a new record in covering 7200 lineal miles without a stop. A Buhl, Whirlwind-powered was used for the flight.

Commenting on this latest record-making transcontinental flight, Capt. Hawks, himself the holder of a transcontinental non-stop flying record, said:

"Endurance flyers have demonstrated the longevity of the machine and the stamina of the men involved. Mamer's flight demonstrated the feasibility of an aerial shuttle between the Pacific and Atlantic which could drop messages or passengers by parachute, the plane and the crew receiving their supplies in the air without the necessity of touching a wheel to the ground."

Rio Grande Oil Co., Los Angeles, was host to a number of press representatives including NATIONAL PETROLEUM NEWS staff writer Jack Westsmith, the week of Aug. 19 when its tri-motored Fokker 10-A plane made a flying trip over the company's California properties.

Starting from the Glendale airport at 10 a.m., the party was carried over Kettleman Hills and Elwood, and then over the Los Angeles harbor district, where the Rio Grande refinery is located. Landing was made at Glendale at 3:30 p.m. Clouds and fogs in the Elwood district prevented a clear view of the company's properties in that district.

A special overhead swinging gasoline pump forms a part of the equipment at the newly opened Kingston, Ont. municipal airport, provided at the service station of Imperial Oil, Ltd., Toronto.

The women in the air derby from Santa Monica, Cal. to Cleveland zoomed into the Oil Capital shortly before noon Aug. 23, received a rousing greeting from its inhabitants, and raced that afternoon to Wichita.

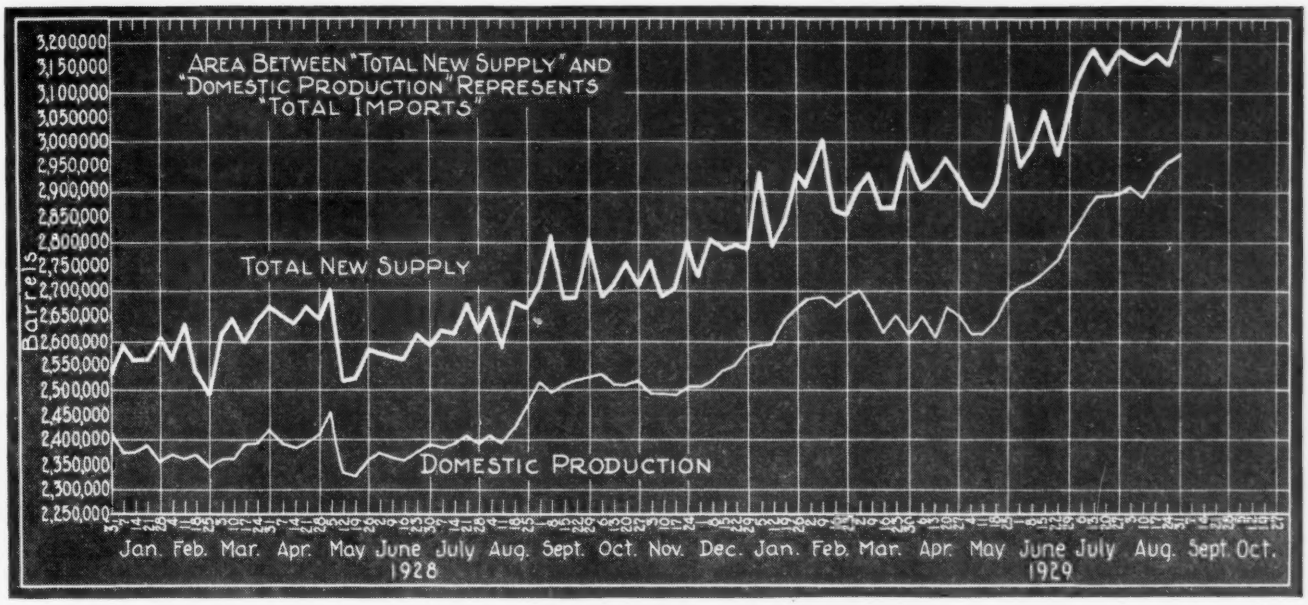
Many oil company executives were among the thousands who witnessed the arrivals. Others were in attendance at the Chamber of Commerce luncheon at noon, given in honor of the birdwomen and members of the Oklahoma Press Association. Some of the oil companies had their attendants stationed at the field to refuel and otherwise service the planes immediately upon their arrival.

Mrs. Louise McPhetridge Von Thaden of Pittsburgh, who had been leading the race, had a pleasant surprise in store when she raced into Tulsa. Her mother and a sister from Bentonville, Ark. were on the field ready to greet her as soon as she stepped from the cockpit.

Tulsa's only entrant in the race, Mrs. May Haizlip was greeted by her husband, James G. Haizlip, a veteran pilot of Tulsa, and her small son. Mrs. Haizlip received a rousing welcome from the thousands gathered at the airport, both upon her arrival, and when she soared over the airport upon her takeoff for Wichita.

Mrs. Louise McPhetridge Thaden of Pittsburgh, Pa., winner of the now famous "Powder Puff" derby—the first ever held for women fliers. Mrs. Thaden flew from Santa Monica, Calif. to Cleveland in 20 hours, 19 minutes, 2 seconds, actual flying time

Daily Average Crude Oil Production and Imports



Daily average gross output of United States, by fields, for week ending with dates below as compiled by American Petroleum Institute

PRODUCTION SUMMARY

	Aug. 31	Aug. 24
Production east of Rockies	2,098,550	2,078,450
Increase		20,100
Total production in U. S.	2,973,450	2,966,350
Increase		7,100
Crude oil imports	279,856	185,857
Increase		93,999
Total crude supply	3,253,306	3,152,207
Increase		101,099

OKLAHOMA

	Aug. 31	Aug. 24
Allen Dome	23,400	24,050
Asher	11,200	11,950
Blackwell	3,750	3,750
Bowlegs	32,800	33,000
Braman	4,050	4,050
Bristow-Slick	21,400	21,000
Burbank	18,700	18,750
Carr City	11,600	11,950
Cromwell	8,100	8,100
Cushing	17,700	18,250
Davenport	1,350	1,400
Duncan District	7,700	7,450
Earlsboro	89,500	90,850
East Seminole	7,700	6,200
Fox	1,400	1,400
Garber	5,050	5,250
Graham	4,250	4,300
Healdton	12,900	13,100
Hewitt	7,900	7,800
Hubbard	1,800	1,800
Little River	19,500	77,050
Logan County	19,000	19,100
Maud	12,550	13,400
Mission	25,300	25,800
North Okmulgee	12,250	12,250
Oklahoma City	47,650	36,600
Osage (outside Burbank)	26,000	26,100
Papoose	3,300	3,300
Pearson	1,150	1,200
St. Louis	67,100	69,950
Scholem-Alechem	13,000	12,600
Searight	12,100	11,950
Seminole	33,200	32,650
South Okmulgee	8,450	8,450
Thomas	900	900
Tonkawa	9,100	9,100
Wewoka	4,550	4,550
Yale-Jennings	7,000	7,000
Others	61,400	61,000
Total, Oklahoma	735,750	727,350
Increase		8,400

KANSAS

Augusta-Fox Bush	3,050	3,050
Churchill	7,350	7,350
Eldorado-Towanda	13,050	13,050
Florence-Covert	1,000	950
Greenwood County	20,850	20,850
Oxford	4,400	4,350
Peabody-Elbing	3,450	3,450
Rainbow Bend	1,050	1,050
Russell	3,100	3,100
Sedgwick County	35,200	36,450
Others	35,800	35,000
Total, Kansas	128,300	128,650
Decrease		350

NORTH LOUISIANA

Bellevue	600	600
Caddo, light	9,600	8,900
Caddo, heavy	3,200	3,300
Cotton Valley	2,400	2,400
De Soto and Red River	3,550	3,850
Elm Grove	550	550
Haynesville	4,950	4,900
Homer	3,900	3,900
Pleasant Hill	1,150	1,300
Urania	6,400	6,450
Others	200	200
Total, North Louisiana	36,500	36,350
Increase		150

ARKANSAS

Champagnolle	6,350	6,600
El Dorado	4,600	4,600
Lisbon	1,200	1,200
Nevada	1,000	1,050
Smackover, light	6,050	6,050
Smackover, heavy	45,850	46,100
Stephens	1,000	1,000
Others	100	100
Total, Arkansas	66,150	66,700
Decrease		550

TEXAS (Outside Gulf Coast)

Panhandle District

Carson County	9,500	9,350
Gray County	100,400	97,300
Hutchinson County	25,400	25,400
Wheeler County	800	700
Others	1,000	1,100
Total, Panhandle Texas	137,100	133,850
Increase		3,250

North Texas

Archer County	19,850	19,700
Burkburnett	9,000	8,750
Electra	11,950	11,500
Iowa Park and K. M. A.	5,050	4,400
Montague-Cooke	17,900	17,850
Wilbarger	32,850	32,500
Others	800	800
Total, North Texas	97,400	95,500
Increase		1,900

West Central Texas

Brown County	8,400	8,200
Callahan County	4,100	4,100
Coleman County	7,400	7,300
Eastland-Desdemona	8,150	7,400
Jack County	3,600	3,750
Palo Pinto County	450	400
Shackelford County	11,050	10,950
Stephens County	6,750	6,700
Throckmorton County	600	700
Young County	8,250	8,300
Others	700	700
Total, West Central Texas	59,450	58,500
Increase		950

West Texas

Crane and Upton Counties	46,100	47,700
Crockett County	2,150	1,900
Howard County	37,550	38,100
Jones County	3,300	3,300
Mitchell and Scurry Counties	2,500	2,400
Pecos County	133,600	130,200
Reagan County	17,600	17,400
Winkler County	131,100	131,000
Others	2,850	2,200
Total, West Texas	376,750	374,200
Increase		2,550

East Central Texas

Boggy Creek	2,650	2,700
Corsicana-Powell	7,700	7,500
Currie	400	450
Mexia	5,800	5,650
Nigger Creek	300	350
Richland	350	300
Wortham	1,050	1,000
Total, East Central Texas	18,250	17,950
Increase		300

Southwest Texas

Dale	450	500
Laredo District	10,150	10,250
Luling	11,600	11,450
Lytton Springs	1,000	1,000
Salt Flat	45,850	46,500
Somerset	1,700	1,900
Others	6,300	6,600
Total, Southwest Texas	77,050	78,200
Decrease		1,150
Total, Texas (Outside Gulf Coast)	766,000	758,200
Increase		7,800

GULF COAST

Coastal Texas

Barbers Hill	22,300	19,300
Batson	1,300	1,350
Big Creek	3,850	4,000
Blue Ridge	2,600	2,700
Boling	1,350	1,400
Damon Mound	600	600
Goose Creek	5,750	5,900
Hull	9,000	8,400
Humble	9,750	8,650
Orange County	2,700	2,800
Pierce Junction	13,500	13,100
Raccoon Bend	8,350	8,000
Saratoga	900	1,000
Somerville	2,000	2,050
Sour Lake	2,600	2,650
South Liberty	5,300	5,000
Spindletop	24,200	24,450
Sugarland	11,050	12,500
West Columbia	6,200	6,300
Others	3,700	3,850
Total, Coastal Texas	137,000	134,000
Increase		3,000

Coastal Louisiana

East Hackberry	2,500	2,500
Edgerly	750	950
Evangeline	2,100	2,100
Lockport	3,450	3,400
Old Hackberry	2,400	2,300
Sorrento Dome	200	150
Sulphur Dome	3,250	3,050
Sweet Lake	50	50
Vinton	4,000	4,500
Others	1,450	1,600
Total, Coastal Louisiana	20,150	20,600
Decrease		450
Total Gulf Coast	157,150	154,600
Increase		2,550

ROCKY MOUNTAIN

Wyoming

Big Muddy	2,200	2,200
Elk Basin	850	800
Grass Creek	2,250	2,250
Labarge	2,300	2,300
Lance Creek	200	200
Lost Soldier	3,850	4,000
Oregon Basin	5,900	5,950
Rock Creek	2,450	2,500
Salt Creek	35,200	33,300
Others	4,200	4,550
Total, Wyoming	59,400	58,050
Increase		1,350

Montana

Cat Creek	1,400	1,400
Pondera	3,000	3,050
Sunburst	6,750	6,950
Others	50	100
Total, Montana	11,200	11,500
Decrease		300

Colorado

Florence	950	900
Fort Collins	2,100	2,500
Moffat (Craig)	1,250	1,250
Others	2,350	2,350
Total, Colorado	6,650	7,000
Decrease		50

New Mexico

Artesia	850	850
Hogback	100	100
Rattlesnake	1,800	1,200
Table Mesa	100	.....
Others	400	400
Total, New Mexico	3,250	2,550
Increase		700
Total, Rocky Mountain	80,500	79,100
Increase		1,400

CALIFORNIA

Dominguez	9,500	9,500
Elwood-Goleta	20,500	21,000
Huntington Beach	44,000	44,000
Inglewood	24,000	24,000
Kettleman Hills	4,500	4,000
Long Beach	169,000	170,000
Midway-Sunset	68,000	68,000
Rosecrans	6,500	6,500
Santa Fe Springs	284,000	293,000
Seal Beach	44,000	46,000
Torrance	12,600	12,600
Ventura Avenue	62,000	63,000
Others	126,300	126,300
Total, California	874,900	887,900
Decrease		13,000

EASTERN

(Including Ill., Ind., Ky., O., W. Va., Pa. and N. Y.)	128,200	127,500
Increase		700

Compilation Of Mid-Continent Refinery Operations

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National Petroleum News

Mid-Continent Refinery Operations Week Ended August 30 (By Telegraph)

	Kansas	Oklahoma	North & Cent. Texas	West Texas	North La.-Ark.	Total Week Ended Aug. 30
Plants Reporting....	12	29	25	15	12	93
Da. Av. Cap. (Bbls.)..	92,000	160,200	86,600	81,500	54,900	475,200
Da. Cracking Capacity	30,700	52,600	17,200	5,000	22,700	128,200
Da. Av. Crude Runs..	63,406 + 1.3	114,655 + 10.6	70,127 — 1.3	51,237 + 10.4	59,260 — 0.1	358,685 + 4.6
Da. Av. Other Oils...	9,834 + 40.9	4,546 — 21.5	2,297 — 7.4	1,442 — 44.6	2,639 — 12.9	20,758 — 0.6
GASOLINE—Gallons						
Stocks, Aug. 23.....	14,040,000	57,885,000	13,968,000	7,904,000	12,431,000	106,228,000
Prod. 8-23 to 8-30....	10,997,000 + 6.6	18,030,000 — 1.6	8,481,000 — 3.4	4,259,000 + 12.9	5,789,000 — 2.1	47,556,000 + 1.0
Ship. 8-23 to 8-30....	12,540,000 — 3.1	19,018,000 — 7.1	9,090,000 + 5.3	3,572,000 — 15.2	5,500,000 — 7.3	49,720,000 — 4.7
Stocks, Aug. 30.....	12,497,000 — 11.0	56,897,000 — 1.7	13,359,000 — 4.4	8,591,000 + 8.7	12,720,000 + 2.3	104,064,000 — 2.0
Ratio Sales to Prod...	114.0%	105.5%	107.2%	83.9%	95.0%	104.6%
KEROSENE—Gallons						
Stocks, Aug. 23.....	6,352,000	4,977,000	2,010,000	73,000	952,000	14,364,000
Prod. 8-23 to 8-30....	2,253,000 — 3.3	2,265,000 — 10.3	1,805,000 + 2.5	19,000 — 59.6	623,000 + 41.9	6,965,000 — 1.9
Ship. 8-23 to 8-30....	2,215,000 — 30.9	2,719,000 + 5.1	1,688,000 + 2.7	70,000 +250.0	421,000 — 25.4	7,113,000 — 11.3
Stocks, Aug. 30.....	6,390,000 + 0.6	4,523,000 — 9.1	2,127,000 + 5.8	22,000 — 69.9	1,154,000 + 21.2	14,216,000 — 1.0
Ratio Sales to Prod...	98.3%	120.0%	93.5%	368.4%	67.6%	102.1%
STOVE DISTILLATE—Gallons						
Stocks, Aug. 23.....	1,712,000	5,912,000	926,000	78,000	33,000	8,661,000
Prod. 8-23 to 8-30....	359,000 + 68.5	798,000 + 42.0	145,000 + 10.9	117,000 + 2.6	177,000 + 12.7	1,596,000 + 35.8
Ship. 8-23 to 8-30....	321,000 — 2.7	717,000 + 12.6	46,000 — 39.5	2,000 — 97.6	157,000 — 23.0	1,243,000 — 6.7
Stocks, Aug. 30.....	1,750,000 + 2.2	5,993,000 + 1.4	1,025,000 + 10.7	193,000 +147.4	53,000 + 60.6	9,014,000 + 4.1
Ratio Sales to Prod...	89.4%	89.8%	31.7%	1.7%	88.7%	77.9%
GAS OIL—Gallons						
Stocks, Aug. 23.....	5,063,000	35,279,000	4,099,000	9,659,000	6,812,000	60,912,000
Prod. 8-23 to 8-30....	1,735,000 +387.4	2,797,000 — 9.3	1,070,000 — 25.1	855,000 +138.8	1,994,000 — 10.0	8,451,000 + 13.6
Ship. 8-23 to 8-30....	1,324,000 — 7.0	1,282,000 + 27.9	523,000 — 53.3	952,000 + 41.7	2,731,000 + 10.9	6,812,000 + 2.0
Stocks, Aug. 30.....	5,474,000 + 8.1	36,794,000 + 4.3	4,646,000 + 13.3	9,562,000 — 1.0	6,075,000 — 10.8	62,551,000 + 2.7
Ratio Sales to Prod...	76.3%	45.8%	48.9%	111.3%	137.0%	80.6%
FUEL OIL—Gallons						
Stocks, Aug. 23.....	15,801,000	57,298,000	54,852,000	29,793,000	23,977,000	181,721,000
Prod. 8-23 to 8-30....	5,018,000 — 27.5	7,102,000 — 3.0	8,182,000 + 1.1	7,874,000 + 8.1	7,647,000 — 4.4	35,823,000 — 4.8
Ship. 8-23 to 8-30 ..	4,876,000 — 24.3	8,534,000 + 25.3	5,544,000 + 4.7	6,755,000 + 8.3	8,327,000 — 13.2	34,036,000 — 1.0
Stocks, Aug. 30.....	15,943,000 + 0.9	55,966,000 — 2.5	57,490,000 + 4.8	30,912,000 + 3.8	23,297,000 — 2.8	183,508,000 + 1.0
Ratio Sales to Prod...	97.2%	120.2%	67.8%	85.8%	108.9%	95.0%

Gasoline Produced by Various Methods, Week Ended August 30

	Kansas	% of Total	Oklahoma	% of Total	North & Cent. Texas	% of Total	West Texas	% of Total	Louisiana-Arkansas	% of Total	Total	% of Total
Straight Run.....	6,796,000	61.8	12,403,000	68.8	6,521,000	76.9	4,003,000	94.0	1,845,000	31.9	31,568,000	66.4
Cracked.....	3,568,000	32.4	4,281,000	23.7	1,341,000	15.8	.....	....	3,450,000	59.6	12,640,000	26.6
Natural.....	633,000	5.8	1,346,000	7.5	619,000	7.3	256,000	6.0	494,000	8.5	3,348,000	7.0
Total.....	10,997,000		18,030,000		8,481,000		4,259,000		5,789,000		47,556,000	

+ or — columns are % change over previous week.

Crude Runs Increased but Gasoline Stocks Fall

Staff Special—By Telegraph
TULSA, Sept. 3

CRUDE runs at Mid-Continent Refineries that report operating statistics to this publication weekly were increased 15,600 barrels daily average the last week in August. Increases were registered in Kansas, Oklahoma and West Texas. Other oil charges were reduced slightly.

Gasoline production increased only 400,000 gallons. Shipments were lower than in the previous week by 2,400,000 gallons. Stocks were reduced 2,200,000 gallons. Each district except North Texas lost business and the increase in that district probably can be accounted for by an export order which was placed there recently. Each district except West Texas and Louisiana-Arkansas shared in the stock reduction.

Kerosene stocks were reduced slightly with production virtually unchanged

Summary for the Month

Production and shipments, all reporting refineries, for four weeks ended Aug. 30. Change in stocks figured from Aug. 2.

GASOLINE

	Gallons
Production	187,716,000
Shipments	205,309,000
Net change in stocks	—17,593,000
Ratio sales to production	109.3%

KEROSENE

Production	27,941,000
Shipments	30,922,000
Net change in stocks	—2,981,000
Ratio sales to production	110.7%

STOVE DISTILLATE

Production	5,139,000
Shipments	4,892,000
Net change in stocks	+247,000
Ratio sales to production	95.2%

GAS OIL

Production	31,140,000
Shipments	32,112,000
Net change in stocks	—972,000
Ratio sales to production	103.1%

FUEL OIL

Production	142,971,000
Shipments	145,426,000
Net change in stocks	—2,455,000
Ratio sales to production	101.7%

and shipments off 900,000 gallons.

Distillate production was stepped up probably preparatory to the expected fall demand the production increase amounting to 400,000 gallons. Shipments were lower by 80,000 gallons and stocks increased 350,000 gallons.

Gas oil stocks were increased 2,600,000 gallons and fuel oil stocks 1,400,000 gallons.

Bus Company Attacks Illinois Tax Law

CHICAGO, Aug. 31.—The Chicago Motor Coach Co. has attacked the new Illinois 3-cent gasoline tax law in a complaint filed in Springfield this week. Judge Thomas H. Jett, of Hillsboro, issued a temporary order restraining the state finance department from depositing in the state treasury the August tax paid by the Motor Coach company.

The bus company makes 13 attacks on the constitutionality of the Illinois law. Some of the complaints are the same that were made on the first Illinois tax law and have supposedly been corrected in this one.

Some of the charges are: That it is discriminatory in that oil and kerosene used as motor fuel are not taxed; that electrically propelled vehicles are not taxed; that the tax is on all motor fuel, whether used to propel motor vehicles, or whether lost by evaporation or other sources; that it fails to provide deduction for cost of collecting of tax except by distributors selling the fuel; that as the state commerce commission regulates the bus company's rates, and that although now paying the tax it has not been relieved by the commission, it thus deprives the company of a fair return on its investment.

It also sets forth that the tax is for the privilege of using the highways, but that it also applies to vehicles which do not use the state highways, such as the buses which operate only in Chicago.

A member of the legal department of one large middle western distributor, expressed the opinion that the suit would be dismissed by the court. He said that in his opinion the Illinois law was almost impregnable and probably the most perfect one in the country.

RICHMOND, Va., Aug. 31.—The request of the Merchants Oil Co. for a permit to erect a service station in Charlotte, N. C. has been referred to the city manager for a report. City council refused the permit on account of traffic congestion. The site was that of the old Mecklenburg county court house, and was leased by county commissions for a rental of $335 a month.

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is NATIONALLY ADVERTISED AS THE *Extra Service* MOTOR OIL

Mid-Continent Gasoline Stimulated By Export Order and Inquiries

Staff Special
TULSA, Aug. 31

PURCHASE of 1,500,000 gallons of gasoline for export and inquiries for more goods for the same purpose furnished one of the major features in Mid-Continent gasoline markets the last week of August. The other feature was the comparatively steady price structure for spot gasoline, but a lowering of quotations for September business in some districts. Domestic gasoline demand continued to be good in most quarters.

The usual end of the month lull was experienced by natural gasolines and prices felt the lack of buying sufficiently to move to slightly lower levels.

Kerosenes were slightly lower in some districts with buying reported somewhat lighter than for the previous week.

Distillates and gas oils were in active demand several refiners indicated and prices of the former commodity advanced slightly. Fuel oils of low sulfur and high gravity were comparatively scarce for spot shipment but prices were generally unchanged. Bright stock was scarce and little spot business was reported. Neutral oils were more freely offered. Wax was slightly more active.

Gasolines

An export order for 1,500,000 gallons 61-63 gravity gasoline was placed in north Texas early in the week, the price reported as having been 7.50 cents a gallon. Another inquiry for export gasoline was reported received in Oklahoma but apparently the offered price was not in line with refiners' ideas as no business was reported prior to noon August 31.

Spot gasoline demand continued good, a majority of refiners reported, and prices were generally in line with those prevailing a week ago. Several refiners showed a tendency, however, to offer more goods for deferred shipment, and in one or two districts the quoted prices were from 0.25 to 0.50 cent a gallon under the spot market. Two or three refiners in north Texas were reported to have sold a quantity of 58-60 U. S. Motor to marketers for September delivery at prices ranging from 7 to 7.25 cents a gallon.

These lower quotations apparently had little if any direct effect on the market generally prior to the close of the month. It has been the policy of a few refiners in the Mid-Continent each year to begin reducing stocks as much as possible beginning with Sept. 1, and this first move made in north Texas may have some effect on the market later, unless motoring weather continues to hold forth in such good proportions jobbers will have to continue to buy heavily as they have had to do the past several weeks.

As long as the weather holds out, refiners are of the opinion the gasoline movement will continue to be heavy since few if any jobbers have engaged in any sort of gasoline storage program this year.

Arkansas and Louisiana refiners late in the week advanced quotations for 58-60 U. S. Motor for differential territory shipment to 8 cents a gallon. Their quotations on a group 3 basis continued to be about in line with those from Oklahoma and from other districts on the same freight basis.

Natural Gasolines

Natural gasolines were somewhat unsettled at the close of the month. A few manufacturers wishing to clean up their production before the first of the month offered goods at lower prices. Others continued to quote at unchanged price levels. Considerable talking was done with reference to prices and buying for delivery over September. One or two manufacturers reported their refiner accounts had indicated they would not use as much natural gasoline in September, while others said they had noticed no difference in volume as received in inquiries for September price quotations.

The market generally lost from 0.125 to 0.25 cent a gallon on all grades before the close of the week. The lower grades pulled away from grade AA late in the week, after being on a parity with that grade for several days.

Kerosenes

Demand for kerosenes was lighter in some districts and prices were reduced in Oklahoma and north Texas. Kansas and Louisiana-Arkansas refiners continued to obtain sufficient business to keep their production moving without having to put any appreciable amount in storage.

Distillates

Prices for distillates were advanced this week under the pressure of buying for storage and also because of the fact that a few manufacturers of distillates preferred to hold their goods a short time on the chance that an early fall would bring an active demand for the commodity within a few weeks.

Quotations for 38-40 straw distillate ranged from 3.625 to 4 cents a gallon but the bulk of sales were made at 3.625 to 3.875 cents. Refiners asking 4 cents for the most part were following a storage program, or were those who normally receive a slight premium for their goods because it has been treated.

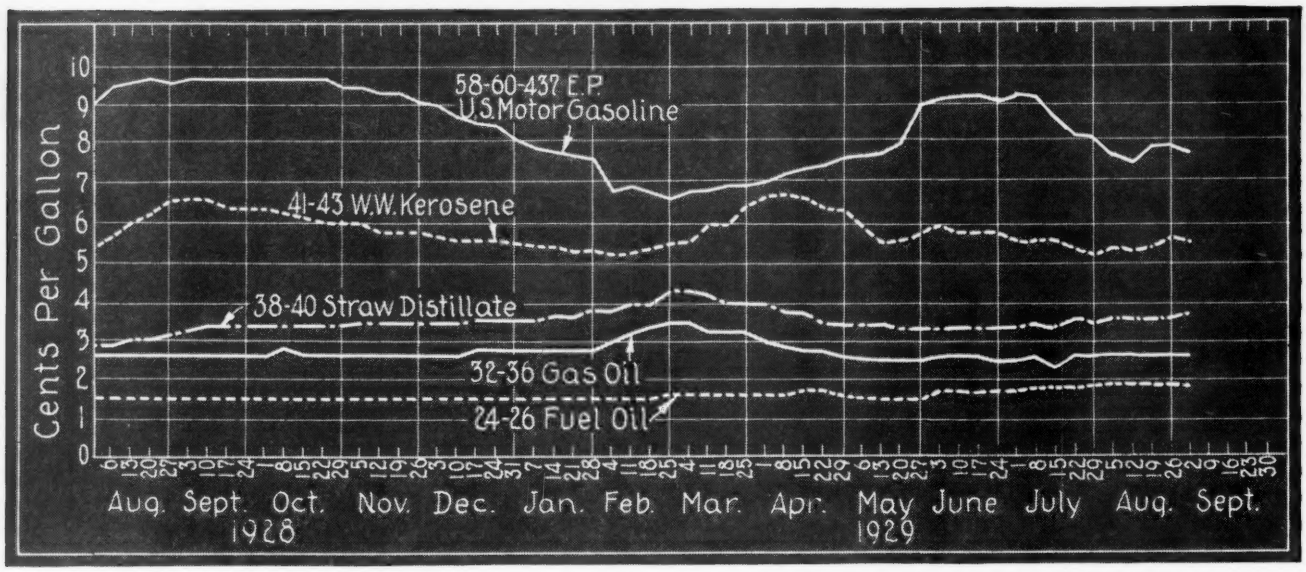
Gas Oils

No changes were noted during the week in price of gas oils but the recycle goods were in more active demand, several refiners reported. Much of this buying probably was for storage for home burner consumption, as has been the case with distillate purchases.

Fuel Oils

Higher gravity fuels were scarcer in most districts. Inquiries were good and reports indicated slightly higher prices were being asked for over September delivery. Lower grades of fuels were unchanged both in price and demand.

Current Prices of Principal Mid-Continent Refined Products


Cents Per Gallon
58-60-437 E.P. U.S. Motor Gasoline
41-43 W.W. Kerosene
38-40 Straw Distillate
32-36 Gas Oil
24-26 Fuel Oil
Aug. Sept. Oct. Nov. Dec. Jan. Feb. Mar. Apr. May June July Aug. Sept.
1928
1929

Prices shown are in Group 3 basis and extended to date s hown in Refinery Market Tables Section of this issue

Neutral Oils, Cylinder Stocks

Neutral oils were more freely offered by several refiners but no material changes in prices were made.

Bright stock continued to be scarce from all sources and only occasional spot sales were checked. The bulk of the goods moving from the Mid-Continent at the present time is under contract. Prices were generally unchanged.

Wax prices were slightly higher with demand reported more active. A few quotations at 3 cents were reported for 124-126 white crude scale.

Opens Sales Office

TULSA, Aug. 29.—W. C. Lawler, formerly with the Western Oil Corp. at Duncan, has resigned and has removed to Omaha where he has opened a northern sales office for the Rock Island Refining Co., also of Duncan. The address of the new office is 636 City National Bank building.

Fire at El Dorado Refinery

EL DORADO, Kan., Aug. 31.—A fire at the plant of the El Dorado Refining Co. here Aug. 25 destroyed the contents of three tank cars and a portion of the loading rack. Damage was estimated at about $10,000.

Sinclair Lauds Employes For "Fine Work"

NEW YORK, Aug. 31.—Harry F. Sinclair, chairman of the board, Sinclair Consolidated Oil Corp., has mailed to all employes of the Sinclair organization a letter in which he praises them for the "fine work" they are doing during his absence. The letter indicated there was no foundation to the reports that he intended to resign as chairman.

"I want every one of you," Mr. Sinclair wrote, "from our presidents and vice-presidents to the last man employed to know how much I appreciate the fine work you are doing. Observing the results you are achieving and the company's steady advancement toward even greater results, I cannot refrain from expressing to you my gratification over this record."

Mr. Sinclair then contrasted the business of the company in 1916 its first year, with that accomplished in 1928 and expressed pride in the petroleum industry, adding:

"It is doing an indispensable work in the development of civilized life. As the world is now organized, it could not go on for 24 hours without oil. Being 'in the oil business' means, therefore, that we are privileged to play a vital part in the world's life. This is not only our opportunity and our responsibility—it is our constant inspiration. It is what makes all worth while.

"It is my belief that this great industry can, henceforth, do no other service so important to itself and to the world as to lend every possible constructive effort to the wise cause of conservation—the best use of our most necessary natural resources. I shall do no more here than to state that belief."

RICHMOND, Va., Aug. 30.—A mail ballot is being taken by the Virginia Oil Men's Association on a place for the convention late in September. Roanoke and Staunton are being considered. As soon as members indicate their choice headquarters will announce the place and exact date for the convention.

Prices 10 Years Ago
Sept. 1, 1919

	Oklahoma	Penna.
58-60 U. S. Motor.....	17.00–17.25c	20.25–20.50c
80-84 Natural	21.00–21.25c	.....
Kerosene (41-43 Okla.; 47 w. w. Pa.....	9.50–10.00c	13.00c
Fuel Oil (24-26 Okla.; 38-40 Pa.)	$0.85	5.50c
Crude (Okla. 35-35.9)....	$2.25	$4.25
Chicago tank wagon.....	.....	21.00c

Prices A Year Ago
Sept. 4, 1928

	Oklahoma	Penna.
58-60 U. S. Motor.....	9.7458c	12.00–12.50c
Grade A Natural.....	9.25–9.75c	.....
Kerosene (Ok. 41-43; Pa. 47 w. w.).....	6.50–6.75c	8.75–9.00c
Fuel Oil (Ok. 24-26; Pa. 36-40).....	$0.65–$0.675	4.625–5.00c
Crude (Ok. 35-35.9).....	$1.31	$3.10
Chicago tank wagon.....	.....	15.00c

Chicago Resale Market

Spot Gasoline Moderately Active

Staff Special
CHICAGO, Aug. 31

THE Chicago resale market passed another quiet week with interest centered mostly on the after Labor Day gasoline market. Spot gasoline demand was fairly active the first half of the week but slowed down considerably during the latter half.

There was very little change apparent in gasoline prices over the week The price range for U. S. Motor showed no change over the 7.50 to 7.75 cent spread that has been in effect for the past two weeks. There was still U. S. Motor available under 7.50 cents but not in any large volume.

Carlot marketers were buying Motor at 7.25 cents in Oklahoma and 7 to 7.125 cents in West Texas and several of them said it was easier to obtain goods at these figures late in the week than previously. Others reported few signs of softening in the market and expressed the opinion that if consumption over Labor Day came up to expectations, jobbers would be active enough in the spot market to hold prices for another week or so.

Refiners generally reported their spot movement slow but said that contract customers continued to take out their maximum quotas. Reports from over the Indiana territory indicated that gasoline consumption was still at a high peak.

There were a number of inquiries in the market for gasoline over September but both jobbers and carlot marketers were somewhat loath to buy much material for over this period. Sales were reported at close to present prices, although one or two large orders have been placed at considerably lower figures.

One thing which lent uncertainty to buying for future shipment was the fear of a tank wagon or crude reduction. While there was nothing definite to base opinions on, quite a number of the trade said they expected to see a cut in tank wagon prices by the end of September.

Most sellers were taking considerable interest in the eastern gasoline situation. Prices have been gradually falling there for the past week or so and two or three marketers said that the competition given the Pennsylvania refiners by this eastern gasoline was forcing them to move their goods westward. Sales of U. S. Motor for shipment into eastern Michigan were reported at 8.50 cent, f.o.b. Pittsburgh, which figures about 10.25 cents delivered.

Most of the trade continued to show very little interest in the higher gravity gasolines and prices for these grades remained unchanged. Demand for anti-knock motor fuels has apparently put the high test goods out of the picture.

Demand for kerosene continued at a fairly high rate and no signs of price reductions were apparent. The price range for 41-43 w.w. remained unchanged over the week. Several refiners reported they were out of the market at present; one or two of them have been purchasing some goods to take care of their own requirements. While few of the trade were expecting any radical increase in kerosene prices, most of them said they expected a good demand through September and that prices should advance slightly.

So far as higher prices and inability to buy any quantity of good material was concerned, the heavier oils were undoubtedly the outstanding feature of the market. While demand for both industrial and home burner oils has been at least normal, or slightly above, most sellers said that scarcity of goods was the primary factor in bringing about higher prices. The outstanding reasons given for this scarcity were: The largest spot market seller of fuel oils in this district was out of the market; very little goods is now coming into this market from West Texas; and, most refiners were holding their gas oils for cracking purposes and not selling on the open market.

One or two shower periods are likely in Standard of Indiana territory next week, while temperatures will probably remain close to normal all week.

NEW YORK—George E. Learnard has been elected chairman of the board of the International Combustion Tar & Chemical Corp. succeeding F. J. Lewis; Dr. Walter Runge has been elected president succeeding W. H. Lewis and Grant Thorn has been made vice-president in charge of sales, it is announced by the board of directors. The company is a subsidiary of the International Combustion Engineering Corp.

CLEVELAND, Aug. 29.—The Graver Corp. has appointed William E. Dunbar as sales engineer in Florida, Georgia and Alabama. His headquarters will be in the Florida theater building, Jacksonville.

ACCURACY

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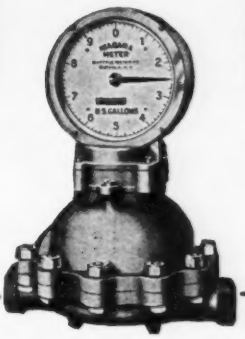

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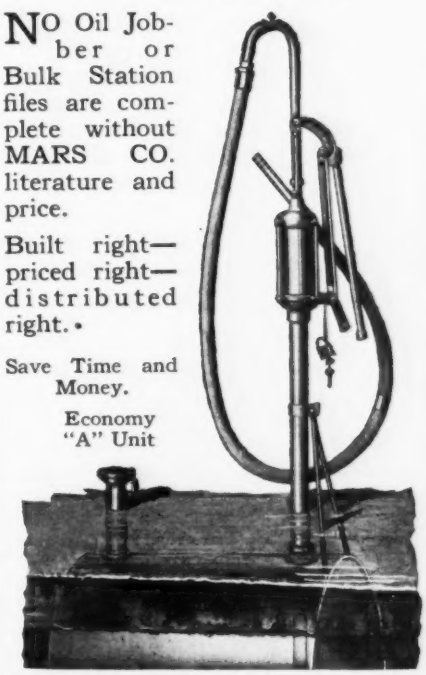


MARS CO., Aurora, Ill.

Refinery Markets on Light Oils and Lubricants

Prices given below are in cents per gallon, F. O. B. refinery except where $ is shown

(These Refinery Prices compiled in the OIL PRICE HANDBOOK for a whole year)

Comparative Prices of 58-60 U. S. Motor Gasoline, 437 E. P., Group 3 and Point of Origin, to Jobbers Only

In Effect September 3

	Price F.O.B. Group 3	*Price F.O.B. Point of Origin*	*If for Particular Destination*
Oklahoma	7.7272 (Wt. Avg.)	7.7272 (Wt. Avg.)	
Kansas	7.50-7.75		S. O. Neb. & Ind. Ter., etc.
Kansas		8.0000 (Wt. Avg.)	Kansas only.
North Texas	7.125-7.50	7.00-7.375	
West Texas	7.00-7.375	7.00-7.375	
Louisiana-Ark.	7.75		Mich., Ohio & Indiana.
Louisiana-Ark.		8.00	State or differential haul.
Indiana-Illinois	7.50-7.75	*	S. O. Ind. territory except Detroit and vicinity. For Ohio on delivered basis only.

*Shipments made from E. Chicago, Ind., and Wood River, Ill., according to conditions and freight rates; no prices F.O.B. point of origin can be given.

Weighted Average Prices

OKLAHOMA

	Sept. 3		Aug. 26		Aug. 19	
	No. of cars	**Price**	**No. of cars**	**Price**	**No. of cars**	**Price**
58-60 U. S. Motor, 437 e. p.	148	7.7272	83	7.7560	85	7.7412
60-62 437 e. p. gasoline	1	7.8750	1	7.7500	No sales reported	
60-62 400 e. p. gasoline	2	8.0000	No sales reported		3	8.1667
64-66 375 e. p. gasoline	1	8.3750	2	8.5000	3	8.5000

While some quotations for over-the-month shipment were reported at lower prices, prevailing spot prices for gasoline remained generally unchanged right up to the close of August, as indicated by the above weighted averages. Demand continued to be fair at the unchanged prices.

KANSAS

	Sept. 3		Aug. 26		Aug. 19	
	No. of cars	**Price**	**No. of cars**	**Price**	**No. of cars**	**Price**
58-60 U. S. Motor, 437 e. p.	2	8.0000	4	8.0000	2	8.0000

A few refiners in Kansas made slight reductions in Group 3 quotations but goods for shipment within the state remained at unchanged price levels most of the past week.

GASOLINE AND NAPHTHA

OKLAHOMA	Prices Sept. 3	Prices Aug. 26	Prices Aug. 19
48-50 450 e.p. naphtha...	7.50	7.50	7.50
50-52 450 e.p. naphtha...	7.50	7.50	7.50
56-58 450 e.p. gasoline...	7.25 – 7.375	7.375– 7.50	7.25 – 7.50
58-60 450 e.p. gasoline...	7.375– 7.50	7.375– 7.625	7.375– 7.625
64-66 390 e.p. gasoline...	8.00 – 8.25	8.00 – 8.25	8.00 – 8.25
68-70 350-360 e.p. gasoline	8.25 – 8.50	8.375– 8.50	8.375– 8.50

†Prices nominal ††Only one refiner quoting *Quotations only

CHICAGO RESALE (F. o. b. Group 3, altho goods may originate elsewhere)

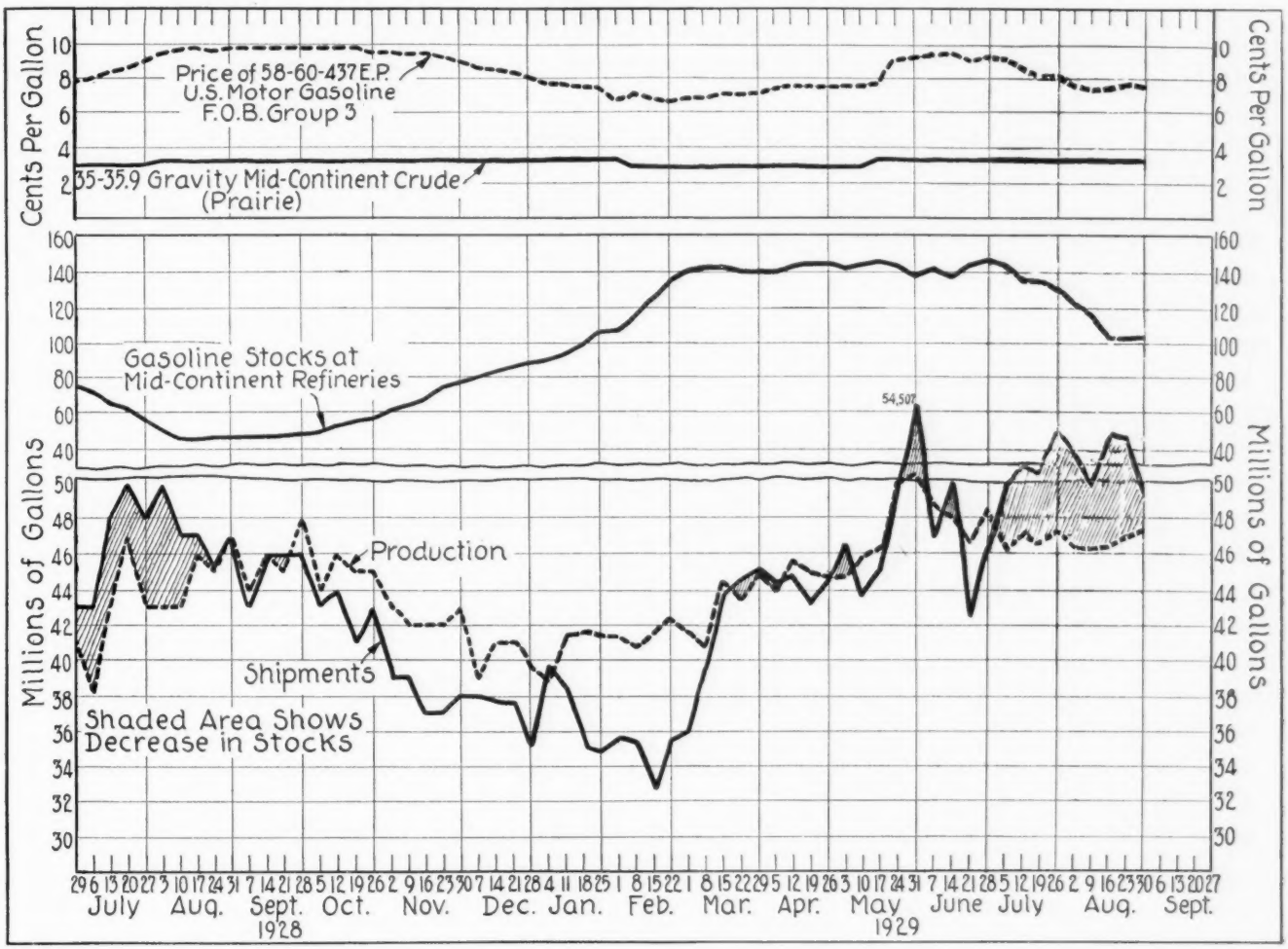
	Prices Sept. 3	Prices Aug. 26	Prices Aug. 19
58-60 U.S. Motor, 437 e.p.	7.50 – 7.75	7.50 – 7.75	7.50 – 7.75
60-62 437 e.p. gasoline...	7.625– 7.875	7.625– 7.875	7.50 – 7.875
60-62 400 e.p. gasoline...	7.75 – 8.00	7.75 – 8.00	7.75 – 8.00
64-66 375 e.p. gasoline...	8.125– 8.25	8.125– 8.25	8.00 – 8.25

(Continued on Page 114)

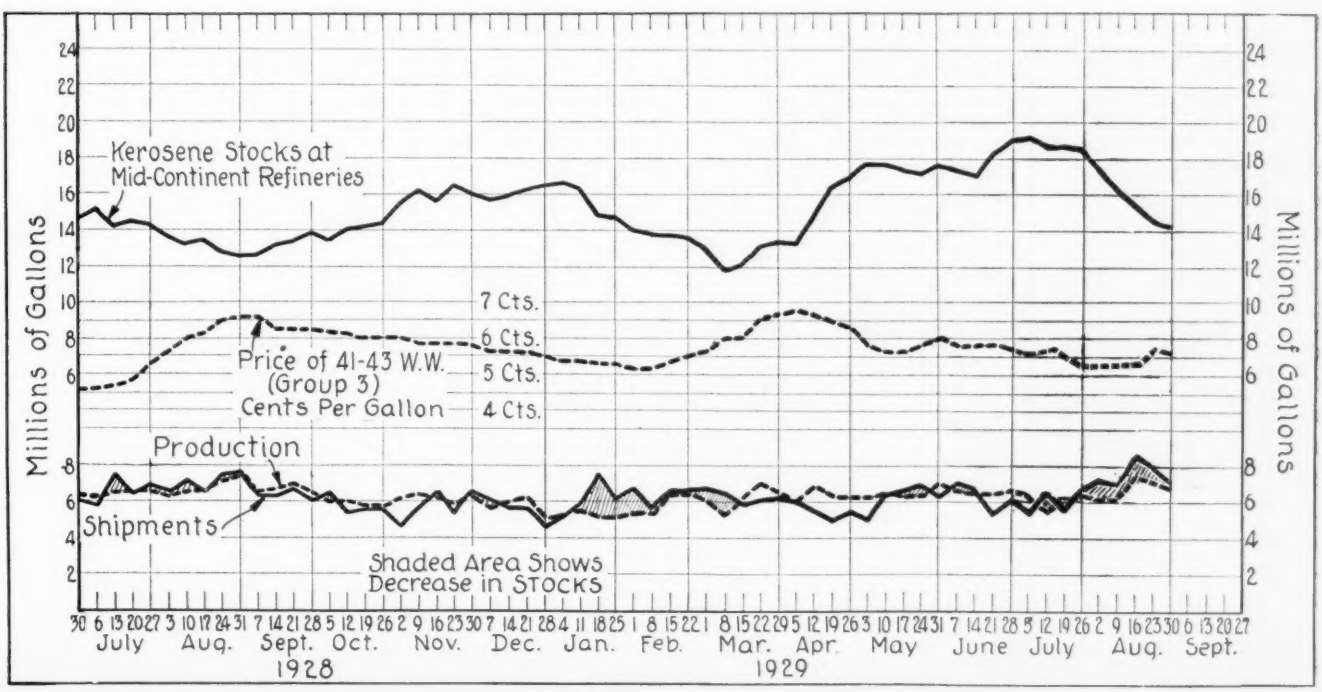
**Represents Both Sales and Quotations.

Barometer of Mid-Continent Refinery Market—Week Ending August 30

Charted Course of Prices, Production, Shipments, Stocks of Principal Refined Products, Week by Week, From Reports Made by 93 Plants to National Petroleum News


Cents Per Gallon
Price of 58-60-437 E.P. U.S. Motor Gasoline F.O.B. Group 3
35-35.9 Gravity Mid-Continent Crude (Prairie)
Gasoline Stocks at Mid-Continent Refineries
54,507
Millions of Gallons
Production
Shipments
Shaded Area Shows Decrease in Stocks
July Aug. Sept. Oct. Nov. Dec. Jan. Feb. Mar. Apr. May June July Aug. Sept.
1928
1929

Prices shown above are extended to date shown in Refinery Market and Crude tables in Market section of this issue and stocks, shipments and Production are extended to date as shown in the table on page 106.



Refinery Markets on Light Oils and Lubricants

Prices given below are in cents per gallon, F. O. B. refinery except where $ is shown

(These Refinery Prices compiled in the OIL PRICE HANDBOOK for a whole year)

PENNSYLVANIA

	Prices Sept. 3	Prices Aug. 26	Prices Aug. 19
52-54 Naphtha	8.50 – 9.00	8.50 – 9.00	8.50 – 9.00
54-56 Naphtha	8.50 – 9.00	8.625– 9.00	8.75 – 9.00
58-60 U.S. Motor 437 e.p.	8.75 – 9.50	8.75 – 9.50	8.75 – 9.25
60-62 400-410 e.p. gasoline	9.125– 9.50	9.125– 9.50	9.125– 9.50
64-66 390 e.p. gasoline	9.50 –10.00	9.50 –10.00	9.50 –10.50
68-70 Str-run gas 350-360 e.p.	10.25 –11.00	10.25 –11.00	10.50 –11.50

OHIO (Quotations of S. O. Ohio. 4c state tax to be added.)

U. S. Motor Gasoline

Ohio, delivery at any point	10.50	10.50	10.50

KANSAS (F. O. B. refinery Kansas destination)

60-62 400 e.p. gasoline	8.00 – 8.25	8.00 – 8.25	8.00 – 8.25
64-66 375 e.p. gasoline	8.25 – 8.375	8.25	8.125– 8.25

NORTH TEXAS

‡45-47 450 e.p. naphtha	6.75	6.75	6.75 – 7.00
56-58 450 e.p. gasoline	7.00	7.125	7.00 – 7.125
58-60 450 e.p. gasoline	7.00 – 7.125	7.125– 7.25	7.00 – 7.125
58-60 U.S. Motor 437 e.p.	7.00 – 7.375	7.375– 7.50	7.25 – 7.50
60-62 400 e.p. gasoline	7.50	7.50	7.375– 7.50
64-66 390 e.p. gasoline	7.50 – 7.75	7.50 – 7.75	7.50 – 7.75
64-66 375 e.p. gasoline	7.75 – 8.00	7.75 – 8.00	7.75 – 8.00
68-70 350-360 e.p. gasoline	8.125– 8.25	8.125– 8.25	8.125– 8.25

‡Gravity changed from 48-52 to 45-47 Aug. 12.

****WEST TEXAS (F.o.b. West Texas refinery, for unrestricted shipment)**

50-52 naphtha	6.75	6.75	6.75
56-58 437 e.p. gasoline	7.00	7.00 – 7.125	6.75 – 7.00
58-60 U. S. Motor 437 e.p. gasoline	7.00 – 7.375	7.25 – 7.50	7.25 – 7.50

NORTH LOUISIANA (N. La., Ark., and Miss. destination)

58-60 390 e.p. gasoline	8.00	7.75	7.75

ARKANSAS (Ark., N. La. and Miss. destination)

58-60 U.S. Motor 437 e.p.	8.00	7.75	7.75

CALIFORNIA (3c tax to be added to California gasoline prices if used in state.)

54-58 U.S. Motor 437 e.p.	7.50 –10.00	7.50 –10.00	7.50 –10.00
58-61 375-400 e.p. gasoline	10.00 –11.00	10.00 –11.00	10.50 –11.00
42-45 Engine Distillate 445-480 e.p.	6.50 – 7.00	6.50 – 7.00	6.50 – 7.00

NATURAL GASOLINE

(Note: End point of all grades, not over 375 F. Corrosion test adopted Oct. 1, 1927; A.S.T.M. Method D130-27T; doctor test, July 2, 1928.)

OKLAHOMA

Grade AA, 80-87.9, 90% Recovery	6.50 – 6.75	6.75 – 7.00	6.50 – 6.75
Grade A, 72-79.9, 90% Recovery	6.50 – 6.75	6.75 – 7.00	6.625– 6.75
Grade BB, 84-92, 85% Recovery	6.25 – 6.75	6.75	6.50 – 6.625
Grade B, 76-83.9, 85% Recovery	6.25 – 6.75	6.75	6.50 – 6.625
Grade C, 80-90, 78% Recovery	6.25 – 6.75	6.75	6.50 – 6.625

NORTH TEXAS (F. o. b. Breckenridge)

Grade AA, 80-87.9, 90% Recovery	6.50 – 6.75	6.75 – 7.00	6.50 – 6.75
Grade A, 72-79.9, 90% Recovery	6.50 – 6.75	6.75 – 7.00	6.625– 6.75
Grade BB, 84-92, 85% Recovery	6.25 – 6.75	6.75	6.50 – 6.625
Grade B, 76-83.9, 85% Recovery	6.25 – 6.75	6.75	6.50 – 6.625
Grade C, 80-90, 78% Recovery	6.25 – 6.75	6.75	6.50 – 6.625

NORTH LOUISIANA (F. o. b. Monroe District)

Grade AA	†6.75	†7.00	†6.75
Grade BB	†6.75	†6.875	†6.75
Grade C	†6.75	†6.875	†6.75

CALIFORNIA

75-85, 375-390 e.p. blend	8.50 – 9.00	8.50 – 9.00	8.00 – 9.00

†Prices nominal ††Only one refiner quoting *Quotations only

BURNING OILS

PENNSYLVANIA

	Prices Sept. 3	Prices Aug. 26	Prices Aug. 19
45 w.w. kerosene	6.25 – 6.50	6.25 – 6.50	6.125– 6.50
46 w.w. kerosene	6.75 – 7.00	6.50 – 7.00	6.375– 7.00
47 w.w. kerosene	6.75 – 7.50	6.75 – 7.50	6.75 – 7.50
300 mineral seal	7.00 – 7.25	7.00 – 7.25	7.00 – 7.25

CHICAGO RESALE (F. o. b. Group 3, altho goods may originate elsewhere)

41-43 w.w. kerosene	5.50 – 5.75	5.50 – 5.75	5.25 – 5.375

OKLAHOMA

41-43 w.w. kerosene	5.375– 5.75	5.50 – 5.75	5.25 – 5.50
42-44 w.w. kerosene	6.00	5.875– 6.00	5.75 – 6.00

KANSAS (F. O. B. refinery Kansas destination)

41-43 w.w. kerosene	6.00 – 6.125	6.00 – 6.125	5.75 – 6.00
42-44 w.w. kerosene	6.125– 6.375	6.125– 6.375	6.00 – 6.25

NORTH TEXAS

40-42 w.w. kerosene	5.00	5.125	5.00
41-43 w.w. kerosene	5.00 – 5.25	5.25	5.00 – 5.25

NORTH LOUISIANA (N. La., Ark. and Miss. destination)

41-43 w.w. kerosene	5.625– 5.75	5.75	5.625– 5.75
42-44 w.w. kerosene	6.00	6.00	6.00

ARKANSAS (Ark., N. La. and Miss. destination)

41-43 kerosene	.....	5.75	5.625– 5.75
42-44 kerosene	6.00	6.00	6.00

CALIFORNIA

38-40 w.w. kerosene	5.00 – 5.50	5.00 – 5.50	5.00 – 5.50

NEUTRAL OIL

PENNSYLVANIA

Vis.		(Viscosity at 70°F.)		
200 No. 3 Assoc. Filt.	25.50 –27.50	25.50 –27.50	26.00 –28.00
180 No. 3 Assoc. Filt.	22.50 –25.00	23.00 –25.00	23.00 –25.00
150 No. 3 Assoc. Filt.	17.00 –18.50	17.00 –18.50	17.50 –19.00
		(Non Viscous)	
34 Grav. 330-340 Flash	7.50 – 7.75	7.50 – 7.75	7.50 – 8.00

****OKLAHOMA**

Vis.	Color	(Viscosity at 100°F.)		
100	No. 2	6.00 – 7.00	6.00 – 7.00	6.00 – 7.00
150	No. 3	7.50 – 8.25	7.50 – 8.25	7.50 – 8.25
150	No. 4	6.75 – 7.50	6.75 – 7.50	6.75 – 7.50
180	No. 3	9.00 – 9.50	9.00 – 9.50	9.00 – 9.50
180	No. 4	8.75 – 9.25	8.75 – 9.25	8.75 – 9.25
180	No. 5	8.50 – 9.00	8.50 – 9.00	8.50 – 9.00
200	No. 3	9.50 –11.00	9.50 –11.00	9.50 –11.00
200	No. 4	9.00 –10.25	9.00 –10.25	9.00 –10.25
200	No. 5	8.75 – 9.50	8.75 – 9.50	8.75 – 9.50
220	No. 3	12.50 –13.50	12.50 –13.50	12.50 –13.50
220	No. 4	12.00 –12.50	12.00 –12.50	12.00 –12.50
220	No. 5	11.00 –12.00	11.00 –12.00	11.00 –12.00
240	No. 3	13.00 –13.50	13.00 –13.50	13.00 –13.50
240	No. 4	12.00 –13.00	12.00 –13.00	12.00 –13.00
240	No. 5	11.00 –13.00	11.00 –13.00	11.00 –13.00
280	No. 3	14.00 –16.00	14.00 –16.00	14.00 –16.00
280	No. 4	13.00 –15.00	13.00 –15.00	13.00 –15.00
280	No. 5	12.00 –14.00	12.00 –14.00	12.00 –14.00

****Represents both sales and quotations.**

Refinery Markets Wax, Lubricants, Heavy Oil

Prices given below are in cents per gallon, F. O. B. refinery except where $ is shown

(For quick reference to Refinery Prices, get the OIL PRICE HANDBOOK, published annually)

GULF COASTAL

Vis.	Color	Prices Sept. 3	Prices Aug. 26	Prices Aug. 19
		(Viscosity at 100°F., pour test 0		
100	No. 2 Pale	6.00 – 6.50	6.00 – 6.50	6.00 – 6.50
200	No. 3 Pale	9.00 – 9.50	9.00 – 9.50	9.00 – 9.50
300	No. 3 Pale	10.00 –10.50	10.00 –10.50	10.00 –10.50
500	No. 3½ Pale	11.50 –12.00	11.50 –12.00	11.50 –12.00
750	No. 4 Pale	12.50 –13.00	12.50 –13.00	12.50 –13.00
200	No. 5½ Red Oil	8.00 – 8.50	8.00 – 8.50	8.00 – 8.50
300	No. 5½ Red Oil	9.00 – 9.50	9.00 – 9.50	9.00 – 9.50
500	No. 6 Red Oil	10.00 –10.50	10.00 –10.50	10.00 –10.50
750	No. 6 Red Oil	11.50 –12.00	11.50 –12.00	11.50 –12.00

CALIFORNIA

Vis.	Color		(Viscosity at 100°F.)	
100	No. 3	9.50 –10.00	9.50 –10.00	9.50 –10.00
200	No. 3	11.50	11.50	11.50
300	No. 3	13.00	13.00	13.00
450	No. 3	15.50	15.50	15.50
550	No. 3	16.50	16.50	16.50
600	No. 3	17.00	17.00	17.00
200	No. 5	11.00	11.00	11.00
300	No. 5	12.00	12.00	12.00
400	No. 5	14.00	14.00	14.00
500	No. 5	15.00	15.00	15.00
600	No. 5	16.00	16.00	16.00
700	No. 7	18.00	18.00	18.00

CYLINDER STOCKS

****OKLAHOMA**

190-200 Vis. D at 210° Brt. St.	37.00 –41.00	37.00 –41.00	37.00 –41.00
150-160 Vis. D at 210° Brt. St.	36.00 –38.00	36.00 –38.00	36.00 –38.00
150-160 Vis. E 210° Brt. St.	33.00 –34.00	36.00	29.00 –33.00
600 St. Ref. Olive Green	12.00 –16.00	12.00 –16.00	12.00 –16.00
600 St. Ref. Dark Green	11.00 –15.00	11.00 –15.00	11.00 –15.00
Black Oil	5.00	5.00	5.00

PENNSYLVANIA (A. S. T. M. Tests)

600 Steam Refined, filterable	22.00 –24.00	23.00 –25.00	23.00 –26.00
650 Steam Refined	28.00 –29.00	27.00 –30.00	28.00 –31.00
600 Flash	30.00 –32.00	30.00 –33.00	31.00 –34.00
625 Flash	35.00 –37.00	35.00 –37.00	35.00 –37.00
600 Warren E	33.50 –34.00	33.50 –34.00	33.50 –34.00
600 Oil City E	30.50 –32.50	30.00 –32.50	31.00 –32.50
600 D Filtered	37.50 –38.00	37.50 –38.00	37.50 –38.00
Cold Test Stock, 40-50p. p., 140-150 vis. at 210° 540-550 flash, No. 8 color	52.00 –53.00	52.00 –53.00	52.00 –53.00
40-50 p.p., 140-150 vis. at 210°, 540-550 flash, No. 6-6½ color diluted	49.00 –51.00	50.00 –51.00	50.00 –51.00

WAX

PENNSYLVANIA (Per pound, New York)

122-124 white crude scale, a.m.p.	2.90 – 3.00	2.875– 3.00	2.85 – 3.00
124-126 white crude scale, a.m.p.	3.00 – 3.125	3.00 – 3.125	3.00 – 3.125

OKLAHOMA

**124-126 White Crude Scale, a. m. p.	2.75 – 2.875	2.625– 2.75	2.625– 2.75

CALIFORNIA

White crude scale, per pound, ton lots, a.m.p.	6.00 – 6.50	6.00 – 6.50	6.00 – 6.50

DISTILLATE, GAS AND FUEL OIL

PENNSYLVANIA (For outside Pittsburgh district)

36-40 fuel oil	4.25 – 4.50	4.25 – 4.375	4.125– 4.50
30-34 fuel oil	4.125– 4.25	4.125	4.125
28-32 fuel oil	4.125– 4.25	4.125	4.125

†Prices Nominal ††Only One Refiner Quoting *Quotations only

CHICAGO RESALE (F. o. b. Group 3, altho goods may originate elsewhere)

	Prices Sept. 3	Prices Aug. 26	Prices Aug. 19
38-40 straw distillate	3.50 – 3.75	3.50 – 3.625	3.375– 3.625
32-36 ordinary dark gas oil	2.50 – 2.625	2.50 – 2.625	2.50 – 2.625
32-36 dark zero gas oil	2.625– 2.75	2.625– 2.75	2.625– 2.75
32-36 straw zero gas oil	†2.875– 3.00	†2.75 – 2.875	2.75 – 2.875
28-30 zero fuel oil	$0.95 –$1.00	$0.95 –$0.975	$0.95 –$0.975
28-30 fuel oil	$0.90 –$0.95	$0.90 –$0.925	$0.90 –$0.925
24-26 fuel oil	$0.70 –$0.725	$0.70 –$0.725	$0.70 –$0.725
18-22 fuel oil, low sulfur	$0.575–$0.625	$0.575–$0.60	$0.575–$0.60
18-22 fuel oil, high sulfur	$0.55 –$0.575	$0.55 –$0.575	$0.525–$0.55

OKLAHOMA

38-40 straw distillate	3.625– 3.875	3.50 – 3.75	3.50 – 3.75
36-38 straw distillate		3.50	3.375– 3.50
32-36 straw gas oil	2.625– 2.75	2.625– 2.75	2.50 – 2.75
32-36 dark gas oil	2.50 – 2.625	2.50 – 2.625	2.50 – 2.625
32-36 straw zero gas oil	2.75 – 2.875	2.75 – 2.875	2.625– 2.875
28-30 zero fuel oil	$0.950– 0.975	$0.95 – 0.975	$0.95 – 0.975
28-30 fuel oil (in bbls.)	$0.875– 0.925	$0.875– 0.925	$0.875– 0.925
26-28 fuel oil (in bbls.)	$0.80 – 0.85	$0.80 – 0.85	$0.80 – 0.85
24-26 fuel oil (in bbls.)	$0.75 – 0.80	$0.75 – 0.85	$0.75 – 0.85
22-26 fuel oil (in bbls.)	$0.625– 0.65	$0.60 – 0.65	$0.60 – 0.65
18-22 fuel oil (in bbls.)	$0.55 – 0.60	$0.55 – 0.60	$0.55 – 0.60 ‡
‡16-20 fuel oil (in bbls.)	$0.50 – 0.55	$0.50 – 0.55	$0.50 – 0.55
14-16 fuel oil (in bbls.)	$0.475– 0.525	$0.475– 0.525	$0.475– 0.525

‡Gravity changed from 16-18 to 16-20, Aug. 19.

KANSAS (F. O. B. refinery Kansas destination)

38-40 straw distillate	3.75	3.50 – 3.75	3.50 – 3.75
36-38 straw distillate	3.50 – 3.625	3.50	3.375– 3.50
32-36 gas oil	2.625– 2.75	2.625– 2.75	2.625– 2.75
24-26 fuel oil			$0.75 – 0.775
18-22 fuel oil	$0.575–$0.65	$0.575– 0.65	$0.55 – 0.65
10-14 fuel oil	$0.50 –$0.55	$0.50 – 0.55	$0.50 – 0.55

NORTH TEXAS

38-40 straw distillate	3.375– 3.625	3.375– 3.50	3.375
32-36 gas oil, cracked	2.375– 2.50	2.375– 2.50	2.50
32-36 St. reduced gas oil	2.50 – 2.625	2.50 – 2.625	2.50
24-26 fuel oil (in bbls.)	$0.625– 0.65	$0.625– 0.675	$0.60 – 0.675
20-24 fuel oil	$0.625– 0.65	$0.625– 0.65	$0.60 – 0.65

****WEST TEXAS (F.o.b. West Texas refinery, for unrestricted shipment)**

34-38 gas oil	2.375– 2.50	2.375– 2.50	2.375– 2.50
30-32 gas oil	2.25 – 2.50	2.25 – 2.50	2.25 – 2.50
18-22 fuel oil	$0.425– 0.50	$0.425– 0.50	$0.40 – 0.50

NORTH LOUISIANA (N. La., Ark. and Miss. destination)

32-36 gas oil, dark	3.00	2.875– 3.00	2.75 – 3.00
32-36 gas oil, straw	3.00	3.00	2.875– 3.00
14-16 fuel oil (in bbls.)	$0.70 – 0.80	$0.70 – 0.80	$0.675– 0.80

ARKANSAS (Ark., N. La. and Miss. destination)

32-36 gas oil, straw	3.00	3.00	3.00
32-36 dark gas oil	3.00	2.875– 3.00	3.00
28-30 gas oil	2.625– 2.875	2.625– 2.875	2.50 – 2.75
14-16 fuel oil	$0.70 – 0.80	$0.70 – 0.80	$0.675– 0.80

CALIFORNIA (F. o. b. San Joaquin Valley. At San Francisco, 4c per bbl. more)

14-18 fuel oil (per bbl.)	$0.50 –$0.60	$0.50 –$0.60	$0.50 –$0.60
14-18 Bunker oil (per bbl.)	$0.70 –$0.75	$0.70 –$0.75	$0.70 –$0.75
30-34 gas oil (per bbl.)	$0.85 –$1.05	$0.85 –$1.05	$0.85 –$1.05
27 Plus Diesel oil (per bbl.)	$0.85 –$0.95	$0.85 –$0.95	$0.85 –$0.95

PETROLATUMS

PENNSYLVANIA (In barrels, carload lots, f. o. b. refinery. In tank cars ⅝c to ¾c per pound less.) Two refiners quoting.

Snow White	8.50	8.50	8.50 – 8.625
Lily White	7.50 – 7.75	7.50 – 7.75	7.50 – 7.625
Cream White	6.50 – 6.75	6.50 – 6.75	6.50 – 6.625
Light Amber	3.50 – 3.75	3.50 – 3.75	3.50 – 3.875
Amber	3.25 – 3.50	3.25 – 3.50	3.25 – 3.625
Red	3.00 – 3.25	3.00 – 3.25	3.00 – 3.375

PETROLEUM COKE

****OKLAHOMA**

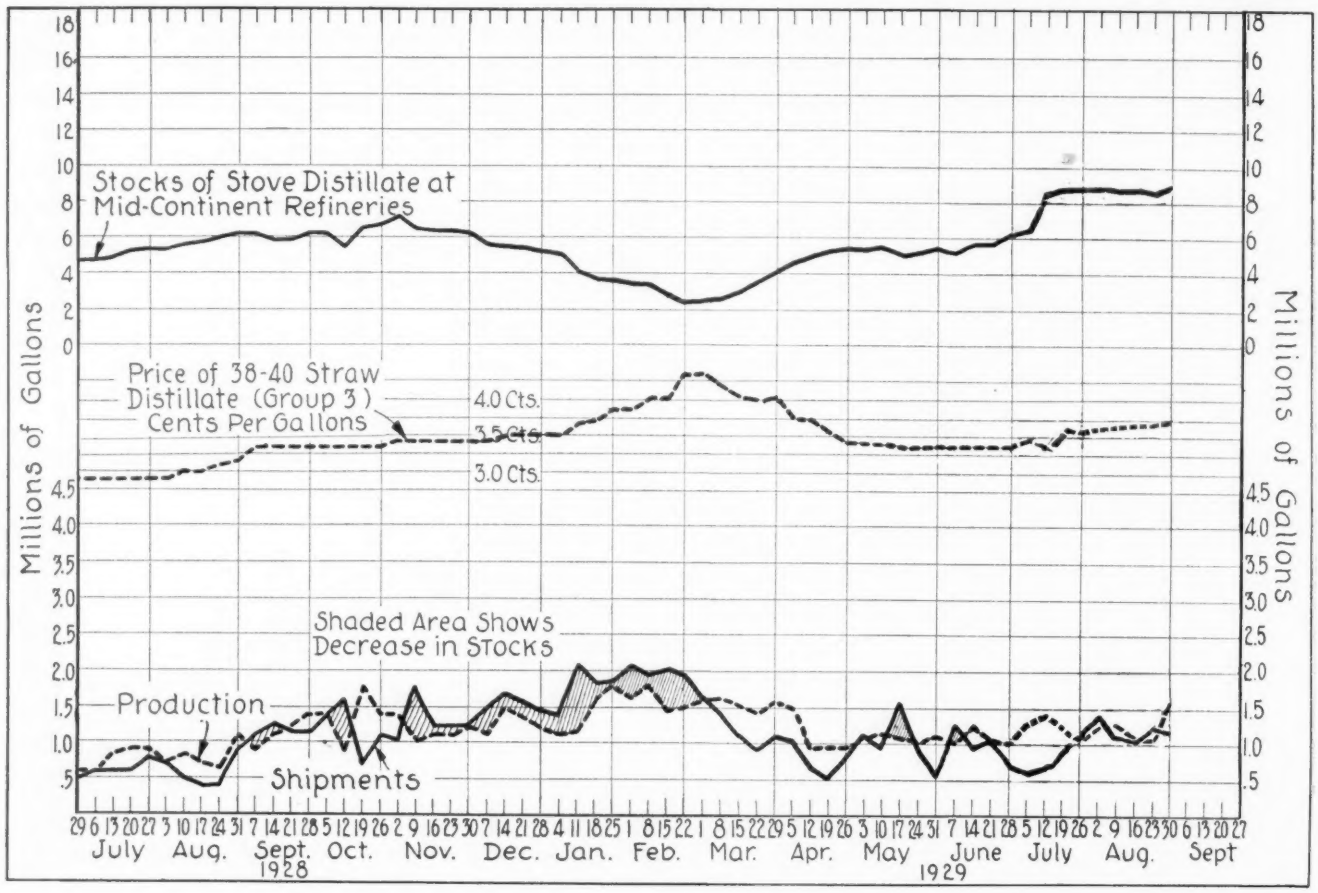
(Per ton in car lots)

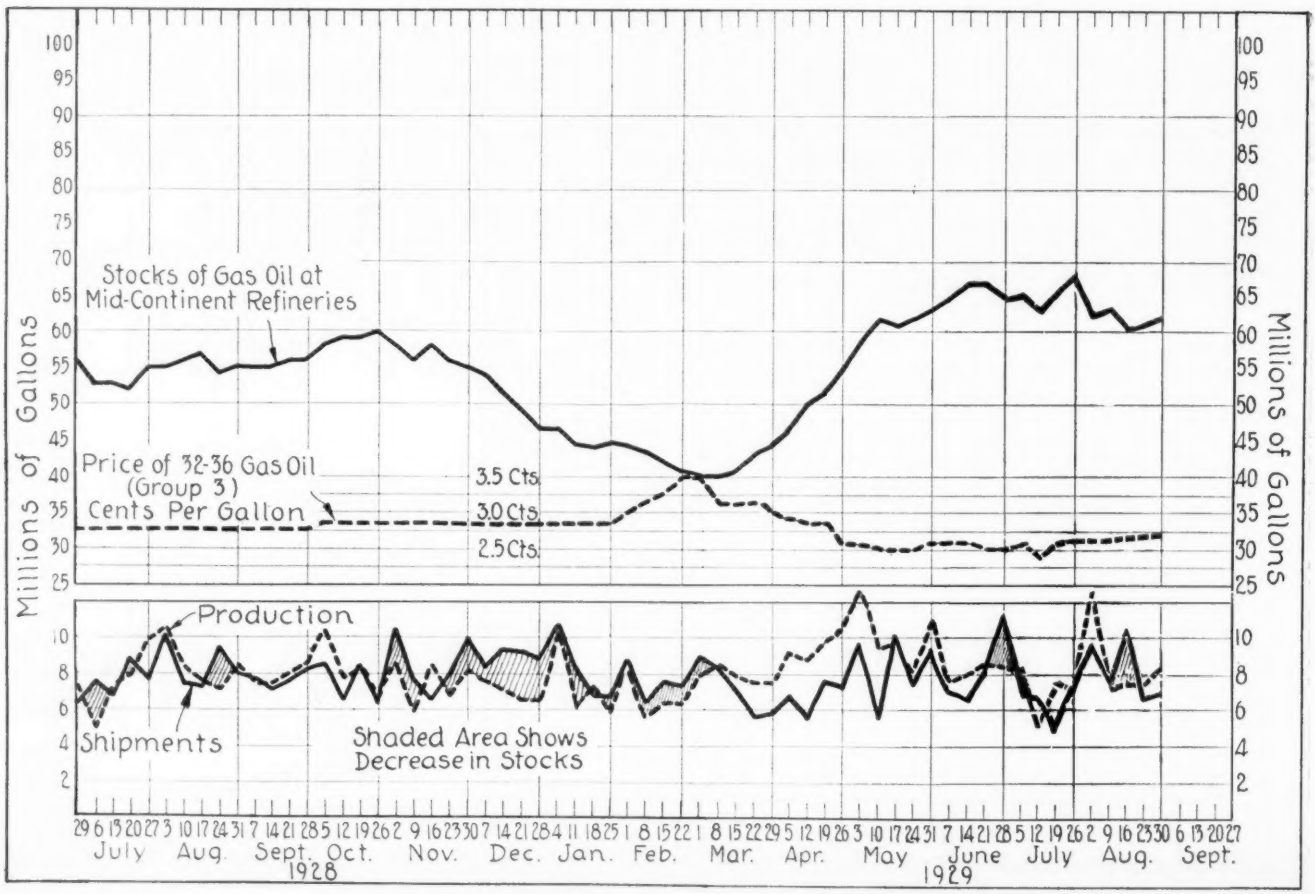
Lump	$4.50 –$5.00	$4.50 – 5.00	$4.50 – 5.00
Still run	$3.00	$3.00	$3.00
Breeze	$2.00	$2.00	$2.00

****Represents both sales and quotations**

Barometer of Mid-Continent Refinery Market—Week Ending August 30

Charted Course of Prices, Production, Shipments, Stocks of Principal Refined Products, Week by Week, From Reports Made by 93 Plants to National Petroleum News


Stocks of Stove Distillate at Mid-Continent Refineries
Price of 38-40 Straw Distillate (Group 3) Cents Per Gallons
4.0 Cts.
3.5 Cts.
3.0 Cts.
Shaded Area Shows Decrease in Stocks
Production
Shipments
Millions of Gallons
July Aug. Sept. Oct. Nov. Dec. Jan. Feb. Mar. Apr. May June July Aug. Sept
1928
1929


Stocks of Gas Oil at Mid-Continent Refineries
Price of 32-36 Gas Oil (Group 3) Cents Per Gallon
3.5 Cts.
3.0 Cts.
2.5 Cts.
Production
Shipments
Shaded Area Shows Decrease in Stocks
Millions of Gallons
July Aug. Sept. Oct. Nov. Dec. Jan. Feb. Mar. Apr. May June July Aug. Sept.
1928
1929

GENERAL MOTORS TRUCK

in a COMPETITIVE TEST *with* *Conclusive Results*

In the test referred to in the accompanying clipping, six different makes of trucks competed, hauling two different makes of trailers and tank with full load over a measured course of 3700 feet, having an average grade of 10.2%, and running as high as 12½%.

CLEVELAND,

THE day of the big heavy duty truck with a 1500, 1600 or even larger tank mounted on its back is rapidly passing in the opinion of many oil company motor transportation officials. The heavy duty trucking units are being replaced by light or medium duty truck tractors to which are attached tanks mounted on or built into semi-trailers. Tests of the hauling ability of the new lighter units have just been held at Gates Mill, O., near Cleveland in the presence of almost 200 men interested in gasoline and oil transportation.

The tests, the first of the kind ever held in this country according to men who have been in the motor transportation industry since its infancy, proved to the satisfaction of the oil company men that the light truck tractor will be the means of making gasoline deliveries in the immediate future.

The Standard [illegible] of Ohio [illegible]

ABOVE is the General Motors Truck Model T-19 Tractor with Davis Welding and Manufacturing Company Tank and Fruehauf Trailer which hauled 4,922 pounds of payload 3700 feet on an average grade of 10.2% in 3 minutes and 59 seconds.

As a result of the outstanding performance of this G. M. C. Tractor, fifty of these models are now in operation by The Standard Oil Company of Ohio.

Actual facts and figures on what General Motors Trucks are contributing to oil and gasoline transportation may have cash value for you.

A G. M. C. representative will place them before you. He is as near as your telephone. General Motors Truck branches, distributors or dealers are located in 1500 principal cities and towns.

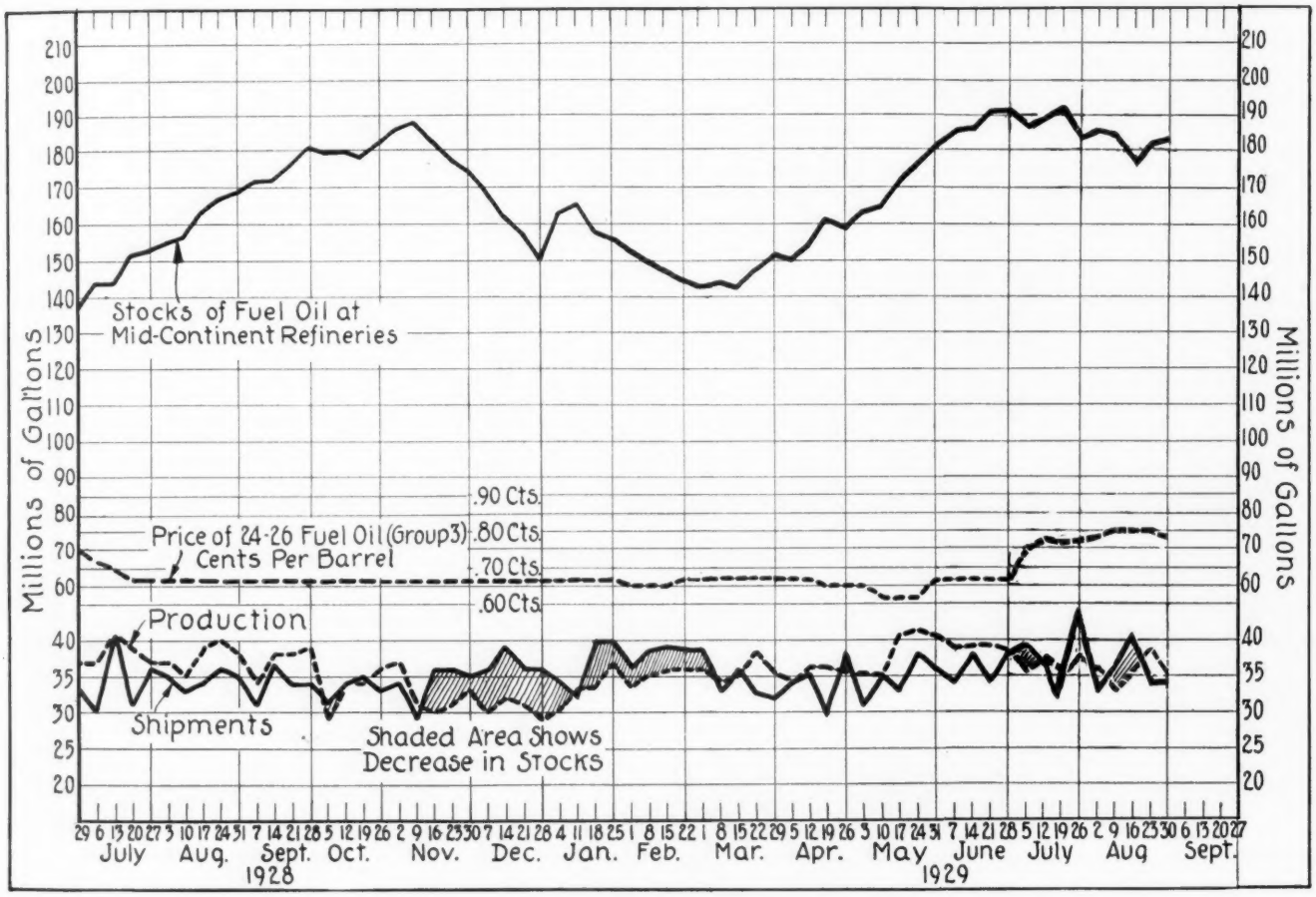
GENERAL MOTORS TRUCK COMPANY, Pontiac, Michigan

Makers of GENERAL MOTORS TRUCKS, and YELLOW TAXICABS and COACHES.

(Time payments financed through the Y. M. A. C. plan, at lowest available rates).

Barometer of Mid-Continent Refinery Market—Week Ending August 30

Charted Course of Prices, Production, Shipments, Stocks of Principal Refined Products, Week by Week, From Reports Made by 93 Plants to National Petroleum News


Millions of Gallons
Millions of Gallons
Stocks of Fuel Oil at Mid-Continent Refineries
Price of 24-26 Fuel Oil (Group 3) Cents Per Barrel
.90 Cts.
.80 Cts.
.70 Cts.
.60 Cts.
Production
Shipments
Shaded Area Shows Decrease in Stocks
July Aug. Sept. Oct. Nov. Dec. Jan. Feb. Mar. Apr. May June July Aug Sept.
1928
1929

California Refinery Market

Spanish Monoply Seeking Gasoline

LOS ANGELES, Aug. 29

A DIVERSITY of opinion prevails among California marketers as to how much effect enforcement of the new state gas law Sept. 1 will have on local markets.

They generally concede that crude, gasoline and casing head prices will be slightly higher as a result of the expected curtailment, although there are some refiners who believe that absorption gasoline may be a shade under current quoted prices.

The big question concerns the future behavior of fuel oil, gas oil, diesel oil, and kerosene. Refiners supplying fuel oil to consumers who are in a position to replace their fuel oil burners with gas burners expect to suffer a loss amounting in one particular case to over 5000 barrels per day. One dealer reports that he has lost a number of small fuel oil contracts through the expected enforcement of the new law.

Fuel oil is in a particularly weak state to withstand any shading of the present quoted market. One contract for approximately 50,000 barrels of this commodity was reported also at $0.535 cents and 40 cars at $0.475 cents.

A slight easing in tanker rates has given rise to a number of predictions that export business will pick up during September or as soon as market conditions on the eastern seaboard are stabilized.

It was rumored that the Spanish monopoly was in the market for 61-63, 390 e. p. gasoline. This goods to be sold under contract for three years at a price of one cent under the Gulf export quotation. One local exporter is reported to have submitted a bid less than one cent under the Gulf price because of the high gravity required.

On the whole export prices along the Pacific Coast were unchanged from those quoted the previous week.

Out of state gasoline continued to move at from 7.50 to 8.75 cents, while instate U. S. Motor was quoted at from 9 to 10 cents, without tax. A few small spot sales were reported for both destinations.

Retail marketing conditions in Southern California have taken on a brighter aspect as a result of the agreement among resellers whereby stations selling gasoline under the standard price of 19.5 cents do not post signs.

One difficulty continues to prevail among major competitors, threatening the price structure. This is the tendency to offer special bonuses to large consumers. One company is reported to have offered as high as a 10 per cent cut in an effort to secure business.

CLEVELAND, Sept. 2.—Ralph L. Fuller, 616 St. Clair Ave., has been appointed sales representative at Cleveland for the Wilson & Bennett Mfg. Co., steel container specialists. Mr. Fuller succeeded J. H. Hinz on Sept. 1.

En-ar-co
MOTOR OIL
White Rose
GASOLINE

YOU will make money if you handle these nationally advertised brands.

All grades of lubricating oils and greases.

The National Refining Co.
Cleveland, Ohio

-TANKS-

STANDARD P.D.M.
CLOSED TANKS FOR ALL PURPOSES

P. D. M. tanks are designed and built to safely store inflammable liquids of any type. Highly combustible oils are confined with surety, as all seams are welded or riveted-and-welded, tested and guaranteed tight at a pressure of five pounds per square inch. They meet all the requirements of the Underwriters' Laboratories and can be furnished with Underwriters' Labels if desired.

P. D. M. tanks, carried in stock and ready for immediate shipment, range from 75 to 26,000 gallons in capacity.

Pittsburgh-Des Moines Steel Company
55 Neville Island, Pittsburgh, Pa.

-P.D.M.-

Pennsylvania Market

Kerosene and Fuel Oil Active

CLEVELAND, Sept. 3.—Kerosene and fuel oil came to the front in the western Pennsylvania market last week. Trading of the two commodities was more active than it has been for some time past. Gasoline demand was reported by a majority of the trade as fair to good and similar reports were given for cylinder stocks. The excellent demand for bright stock which manufacturers have experienced since the middle of July failed to show any signs of slackening. There was little or no demand for neutral oils.

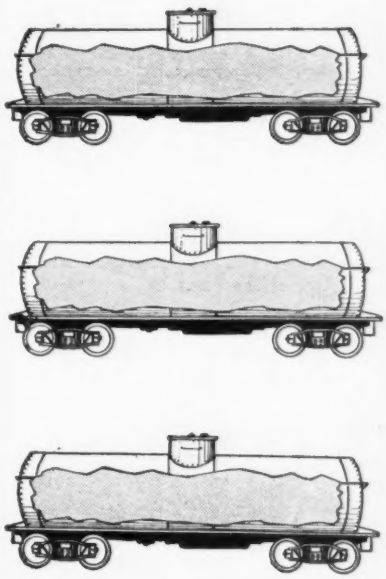
Definite price movements, either up or down, were lacking for all commodities with the exception of neutral oils, prices for which were lower. Burning oils, however, displayed an advancing tendency and most sellers expected prices for these oils to work considerably higher in the next week or two. The demand last week was said to have come from jobbers who were building up their fall storage early although in part the demand for fuel oil came from several refiners who have been out of the market for cracking stock for several weeks.

A fairly large volume of 36-40 fuel oil orders were reported placed last week at prices ranging upward from 4.25 cents. This compares with a low of 4.125 cents reported for the previous week. A broker reported negotiating a deal involving a large quantity of this grade at considerably under 4.25 cents. The goods, however, was to be shipped over a six weeks period and for this reason could not be considered representative of the spot market.

A majority of the trade quoted a minimum of 6.375 cents for 45 water white kerosene although this grade was still available at 6.25 cents in some quarters. The differential between Mid-Continent and Pennsylvania kerosene prices is abnormally narrow and this has caused increased buying from the middle west in the Pennsylvania field.

Bright stock was none too freely offered by manufacturers last week. Several of them reported being sold up for September shipment. No. 8 color oil was quoted at a minimum of 52 cents with the darker grade at a low of 49 cents.

HARRISON, N. J., Aug. 30.—E. J. Schwanhausser, for the past two years assistant manager of the Harrison works of the Worthington Pump & Machinery Corp., has been made manager of that company's Buffalo works. Mr. Schwanhausser being only 35 years old, is one of the youngest executives in that company's organization.



EVERY CARLOAD COLORED ALIKE

Uniformity is easy with

DYKEM GASOLINE COLORS

Several Shades of
RED BLUE
GREEN PURPLE
ORANGE

Samples of shades you prefer and prices gladly submitted.

DYESTUFFS & CHEMICALS, INCORPORATED.
11th and Monroe Sts.,
ST. LOUIS, MO.

New York Domestic Market

Tank Car Prices Drop After T. W. Cut

Staff Special
NEW YORK, Aug. 31

ALL events of interest in eastern markets the past week were overshadowed by the 3-cent reduction made in tank wagon and service station gasoline prices Aug. 30, by the Standard Oil Co. of New York. It applied only to the metropolitan district. In adjacent territory where prices have been above normal the company reduced prices 1 cent.

The metropolitan reduction, the most drastic in years, brought the tank wagon price down to 14 cents and the service station price to 16 cents, each exclusive of 2 cents state tax. The 1 cent decrease lowered prices to 16 and 18 cents, exclusive of tax, and brought them in line with the company's state-wide price structure.

Such companies as Sun, Sinclair, Shell and Tidewater, have met the reduction Aug. 31, and it was expected that all companies operating in New York could conform to the new price in a few days, if they had not already.

Many of the New York trade have construed the Standard company's action as the first step in the anticipated price war between that company and the Shell Petroleum Co. The latter company, since its entrance into the retail field here some weeks ago, has acquired, it is reported, numerous stations and bulk storage plants from which its products are being dispensed, and it is making an active bid for New York City business.

Officials of the Standard did not say that the reduction was a direct thrust at the Shell company, but did say that it was "because of competitive conditions."

Gasoline had been sold in New York City in tank wagon as low as 10.50 cents, 6.50 cents below the posted price of 17 cents, prior to the reduction. Latest reports, although unconfirmed, claim that one company is now selling at 9 cents which is the current price in tank cars.

The tank wagon decline was followed by a revision of tank car prices and Aug. 31 saw gasoline in most districts on the seaboard from 0.25 to 0.50 cent lower.

A principal refiner started the move Aug. 30, by announcing a 1-cent reduction, from 10 to 9 cents. This price was general Aug. 31, although one company continued to quote 9.50 cents and another 9.25 cents. Both indicated, however, that they probably would lower their prices after the holiday.

The market was generally unsettled and because of the proximity of the two-day vacation, many oil men were away from their desks and it was almost impossible to get a true picture of the market. However, this one company's reduction applied also to Baltimore, Norfolk and Charleston, and consequently the price was lower at those points by 0.50 cent. One company said that it was still obtaining business Aug. 31, at those points at 9.50 cents.

New England prices did not suffer by the change although there was some shading reported. Prices there are more in line with normal market conditions than they have been for some time. As a rule they are from 1 cent to 1.75 cents above the Bayonne price, depending upon the point to which the goods moves. Providence and Boston districts are now being quoted 10 to 10.25 cents, and Portland, 10.50 to 10.75 cents.

California gasoline was lower by 0.25 cent at all points. The Philadelphia market has been the leader in lowering prices because of competition into the western Pennsylvania fields, where anti-knock fuel is used for blending with regular gasoline. One seller there said that he was competing with gasoline refined from Venezuelan crude, a fuel rated high in benzol equivalent, and that he believed some of it to be moving from Bayonne.

Suppliers of all grades of gasoline continued to report that the spot market was slow, although the contract movement was good. A number have sold over September at current prices. Shipments over September and probably over October, are expected to be large.

Other commodities were unchanged both in price and demand, although there was some stiffening in the kerosene market at New York and Baltimore. Some kerosene is moving from the Philadelphia district at 7.50 cents.

Gulf Coast Market

Foreign Inquiry Creates Better Feeling

Staff Special
NEW YORK, Aug. 31

A SINGLE inquiry which was still open Saturday offered the only activity in the Gulf market at the close of the month. Prices for all commodities were unchanged, with no alteration in the demand situation on any product.

The inquiry came into the market around the middle of the week from a French buyer who sought a mixed cargo of gasoline and kerosene for shipment between Sept. 15 and Oct. 15. The inquiry calls for 76,500 barrels, divided as follows: 51,000 barrels of 64-66, 375 e. p. gasoline, 8,500 barrels of U. S. Motor and 8,500 barrels each of 41-43 prime white and 44 water white kerosene.

This particular account deals mostly with a large seaboard refiner with whom the inquiry was first placed. Report from the refiner Aug. 31 showed that the company had taken it under consideration and expected to close the deal early the first week in September. As the refiner is a member of the Petroleum Export Association, it is presumed that prices established by the organization will govern the transaction.

There are various opinions as to the present condition of the market but all sellers agree that with the present amount of gasoline on hand, interest on the part of foreign buyers would be welcome. Many expect lower prices in the future due to the seasonal decline in demand and also because of the fact that gasoline abroad, particularly in the Black sea area, can be purchased under prices asked by U. S. refiners.

No action was taken by the Association to reduce prices this past week although there were rumors current among the trade the week previous that a reduction of U. S. Motor prices was being contemplated. Some feel that a reduction is logical inasmuch as it is possible to buy cheaper in the field. The attractive field price was believed responsible for an exporter inquiring for gasoline in both Oklahoma and Texas the past week.

Wax Market

Buyers Show Greater Interest

NEW YORK, Aug. 31.—Several inquiries and a few small sales brought new life to wax markets the past week and created a slightly better tone in the market. Prices were generally unchanged, although two suppliers were quoting slightly higher for white and yellow crude scale.

Sales were mostly in small lots but some of the trade felt they were forerunners of better domestic business that is expected to develop this month. All were made on a basis of 3 cents New York, with the exception of one which brought 3.05 cents New York.

One refiner quoted 3.125 cents for white crude scale and another was asking 3 cents for yellow. Both stated they had not made any sales at these figures, however.

The trade generally feels that there will be some improvement in the scale market in the near future and that it will continue to show improvement in keeping with the fall and winter demand. In view of the expected upward trend a broker purchased a quantity of white scale for November and December shipment at 3.15 cents per pound.

An inquiry was reported for 100 tons of 124-126 white crude scale for export during the week and another for 50 tons of the same grade for domestic shipment. A United Kingdom buyer also was reported to be seeking 100 tons of white scale for prompt shipment, offering less than 3 cents. The refiner reporting the inquiry said that the business had not been closed up to Aug. 31.

Fully refined goods also were unchanged and there was not the interest shown in those grades that there was in scale. A Cuban buyer was in the market for some 133-135 A.m.p. goods, endeavoring to purchase 25 tons per month over the next six months, which about constituted the week's activity.

Although it is the general opinion that stocks of fully refined goods are greater than scale stocks, the market is likewise expected to show some improvement during September.

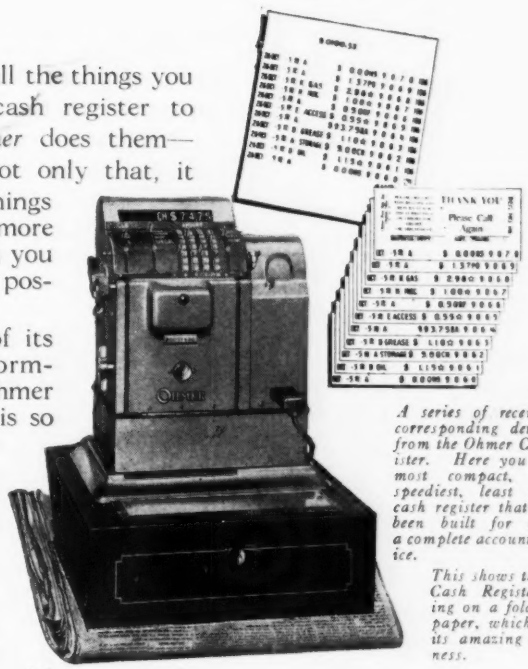
Gulf Lubes More Active

HOUSTON, Sept. 3.—Gulf Coastal lubricant markets last week showed strength without actual price change, reflecting the appearance of fall business and the placing of contracts ahead for winter requirements on zero cold test materials. Manufacturers in general foresee better business through September and October.

-HERE IT IS!-

. . . the new and revolutionary

OHMER Cash Register



A series of receipts with corresponding detail strip from the Ohmer Cash Register. Here you have the most compact, simplest, speediest, least expensive cash register that has ever been built for rendering a complete accounting service.

This shows the Ohmer Cash Register standing on a folded newspaper, which suggests its amazing compactness.

THINK of all the things you expect a cash register to do. The *Ohmer* does them—and more. Not only that, it does these things faster, better, more effectively than you even thought possible.

Yet, in spite of its uncanny performance, the Ohmer Cash Register is so small that it occupies counter space less than half the size of a newspaper page. It's so light that a boy can carry it from place to place. It's so ingeniously simple in construction that hundreds of moving parts are avoided.

The saving of superfluous parts is reflected in the remarkably low price of the Ohmer Cash Register. Now, for the first time, all the advantages of complete registration can be had at little cost and in compact form wherever a cash register is needed.

Write immediately for Full Information

Ask us to tell you all about the Ohmer Cash Register. Find out exactly what this wonderful machine is and what it does. You'll be astonished to see how so much register can be built into such small space. You'll be amazed to discover how so much accounting service can be provided at such a low price. Write today.

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FARE REGISTER COMPANY

Dayton, Ohio, U. S. A.

Factory Branches, completely equipped, at—

New York, Chicago, Philadelphia, Detroit, Cleveland, Boston, Los Angeles, San Francisco, Portland, Montreal and Dayton

Sales and Service Offices in all Principal Cities

Complete Seaboard Market

(Export Markets for whole year given in OIL PRICE HANDBOOK. Each volume carries refinery, tank wagon, crude and export markets—complete for the whole year)

Eastern Domestic Market

(Prices for tank car lots, f. o. b. refinery or seaboard terminal, representing majority of quotations.)

U. S. MOTOR GASOLINE	Sept. 3	Aug. 26	Aug. 19
New York harbor	9.00	††9.00 – 9.50	9.00 – 9.50
Portland district	**10.50–10.75	**10.50–10.75	**10.75–11.00
Boston district	**10.00–10.25	**10.00–10.25	**10.25–10.50
Providence district	**10.00–10.25	**10.00–10.25	**10.25–10.50
Philadelphia district	9.00 – 9.25	9.50	9.50
Baltimore district	9.00	9.50	9.50 – 9.75
Norfolk district	9.00 – 9.25	9.50	9.50 – 9.75
Charleston district	9.00 – 9.25	9.50	9.50 – 9.75
Savannah district	9.00 – 9.25	9.50	9.50 – 9.75
Jacksonville district	9.00 – 9.25	9.50	9.50 – 9.75
CALIFORNIA, U. S. MOTOR GASOLINE			
New York habor	9.25	9.50	††9.50
Philadelphia district	9.25	9.50	9.50
Baltimore district	9.25 – 9.50	9.50 – 9.75	9.75
WATER WHITE KEROSENE			
New York harbor	7.75	7.75	7.75
Philadelphia district	7.50 – 7.75	7.75	7.75
Baltimore district	7.75	7.75	7.75 – 8.00
Gas OIL: 28-34 Gravity			
New York harbor	4.75	4.75	4.75
Boston district	4.75	4.75	4.75
FURNACE OIL: 36-40 Gravity			
New York habor	6.00 – 6.50	6.00 – 6.50	6.00 – 6.50
Boston district	6.00 – 6.50	6.00 – 6.50	6.00 – 6.50
GRADE C BUNKER OIL†			
New York harbor	$1.05	$1.05	$1.05
Boston district	$1.05	$1.05	$1.05
DIESEL OIL			
New York harbor	$2.00 –$2.10	$2.00 –$2.10	$2.00 –$2.10
MEDICINAL OILS, RUSSIAN			
.885-890 s.g. 320-330 vis.	$0.82 – 0.97	$0.82 – 0.97	$0.82 – 0.97
.870-875 s.g. 145-155 vis.	$0.74 – 0.89	$0.74 – 0.89	$0.74 – 0.89

Note: Above gasoline prices do not include inspection tax levied in some states
*Minimum delivered. **Delivered prices. †Lighterage 5c per bbl. additional
††Nominal.

New York Export Market

(Lubricating oils are per gal. in bbls.)

	Sept. 3	Aug. 26	Aug. 19
CYLINDER OILS (Pennsylvania Products)			
Bright stock, dark	56.00 –59.00	57.00 –59.00	57.00 –59.00
600 D filtered	44.00	44.00 –46.00	44.00 –46.00
600 Warren E filtered	38.00 –40.00	42.00	42.00
600 s.r. unfiltered	27.00 –30.00	30.00 –33.00	30.00 –33.00
650 s.r. unfiltered	36.00 –39.00	36.00 –39.00	36.00 –39.00
600 flash, s.r.	38.00 –40.00	40.00 –43.00	40.00 –43.00
630 flash, s.r.	43.00 –45.00	45.00 –47.00	45.00 –47.00
RED ENGINE OILS (Vis. 100°)			
300 vis. No. 6½ color	20.00 –21.00	20.00 –21.00	20.00 –21.00
250 vis. No. 6 color	18.00 –20.00	18.00 –20.00	18.00 –20.00
200 vis. No. 6 color	16.00 –17.00	16.00 –17.00	16.00 –17.00
PALE ENGINE OILS (Vis. 100°)			
230 vis. No. 3¾ color	20.00 –21.00	20.00 –21.00	20.00 –21.00
180 vis. No. 3¼ color	17.00	17.00	17.00
100 vis. No. 2¼ color	16.00	16.00	16.00
MOTOR OILS (Vis. 100°)			
600 vis. No. 7 color	33.00 –34.00	33.00 –34.00	33.00 –34.00
500 vis. No. 6½ color	31.00	31.00	31.00
400 vis. No. 7¼ color	30.00	30.00	30.00
300 vis. No. 6 color	23.00 –25.00	23.00 –25.00	23.00 –25.00
200 vis. No. 6 color	20.00 –22.00	20.00 –22.00	20.00 –22.00
MEDICINAL OILS			
.875-880 s.g.	$0.76 – 0.91	$0.76 – 0.91	$0.76 – 0.91
.860-.865 s.g.	$0.58 – 0.73	$0.58 – 0.73	$0.58 – 0.73
WAXES (In cents per pound, f.a.s. carload lots)			
WHITE CRUDE SCALE (In barrels)			
122-124 A.m.p.	3.00	3.00	3.00
124-126 A.m.p.	3.00	3.00	3.00
FULLY REFINED (In burlap bags)			
123-125 A.m.p. Phila.	4.00 – 4.25	4.00 – 4.25	4.00 – 4.25
125-127 A.m.p.	4.00 – 4.25	4.00 – 4.25	4.00 – 4.25
128-130 A.m.p.	4.50	4.50	4.50
130-132 A.m.p.	5.25 – 5.50	5.25 – 5.50	5.25 – 5.50
133-135 A.m.p.	6.00 – 6.25	6.00 – 6.25	6.00 – 6.25
135-137 A.m.p.	6.25 – 6.50	6.25 – 6.50	6.25 – 6.50
YELLOW CRUDE SCALE			
124-126 A.m.p.	2.75 – 2.875	2.75 – 2.875	2.75 – 2.875

Gulf Export Market

(Prices are f. o. b. Gulf oil terminals in Texas and Louisiana, shipments of 20,000 bbls. or more unless otherwise noted and for export shipment only).

GASOLINE	Sept. 3	Aug. 26	Aug. 19
U. S. Motor	8.50	8.50	8.50
60-62, 400 e.p.	9.50	9.50	9.50
61-63, 390 e.p.	9.75	9.75	9.75
64-66, 375 e.p.	10.00	10.00	10.00
U. S. Motor, cases (cargoes)	$1.85	$1.85	$1.85
64-66, cases (cargoes)	$2.00	$2.00	$2.00
KEROSENE			
44 water white	8.00	8.00	8.00
41-43 prime white	7.00	7.00	7.00
Water white, cases (cargoes)	$1.80	$1.80	$1.80
Prime white, cases (cargoes)	$1.70	$1.70	$1.70
DOMESTIC GAS & BUNKER OILS			
*26-30 translucent gas oil	4.00	4.00	4.00
*30 plus translucent gas oil	4.00 – 4.125	4.00 – 4.125	4.00 – 4.125
Grade C bunker oil	$0.90 –$0.95	$0.90 –$0.95	$0.90 –$0.95
Grade C bunker oil, cargoes	$0.70 –$0.75	$0.70 –$0.75	$0.70 –$0.75

*Less than ½ of 1% sulphur.

MEXICAN CRUDE AND BUNKER OILS (F. O. B. Steamer, Tampico)			
Heavy Panuco crude taxes to be paid	$0.60 –$0.65	$0.60 –$0.65	$0.60 –$0.65
Grade C bunker oil for bunkering purposes, taxes paid	$0.90 –$0.95	$0.90 –$0.95	$0.90 –$0.95
SOUTH TEXAS LUBRICATING OILS, (Viscosity at 100° F. (cold test 0) (Tanker, f. o. b. Houston)			
100 vis. No. 2 unfiltered pale	6.00 – 6.50	6.50	6.50
200 vis. No. 3 unfiltered pale	8.00 – 9.00	8.00 – 9.00	8.00 – 9.00
300 vis. No. 3 unfiltered pale	9.50 –10.00	9.50 –10.00	9.50 –10.00
500 vis. No 3½ unfiltered pale	11.00 –11.50	11.00 –11.50	11.00 –11.50
750 vis. No. 4 unfiltered pale	12.50 –13.00	12.50 –13.00	12.50 –13.00
1200 vis. No. 5 unfiltered pale	16.00 –16.50	16.00 –16.50	16.00 –16.50
200 vis. No. 5-6 red oil	7.75 – 8.00	7.75 – 8.00	7.75 – 8.00
300 vis. No. 5-6 red oil	8.25 – 8.50	8.25 – 8.50	8.25 – 8.50
500 vis. No. 5-6 red oil	9.00 –10.00	9.75 –10.00	9.75 –10.00
750 vis. No. 5-6 red oil	11.75 –12.00	11.75 –12.00	11.75 –12.00
1200 vis. No. 5-6 red oil	16.00 –16.50	16.00 –16.50	16.00 –16.50

Gulf Domestic Market

(Prices are f.o.b. Gulf oil terminals in Texas and Louisiana in shipments of 20,000 bbls. or more, representing sellers' opinions, for domestic shipment only).

	Sept. 3	Aug. 26	Aug. 19
U. S. Motor gasoline	7.50	7.75	7.75
41-43 w.w. kerosene	6.50	6.50	6.50
*26-32 translucent gas oil	4.00	4.00	4.00

*Less than ½ of 1% sulfur.

Pacific Export Market

(Quotations are at seaboard, Los Angeles, in cargo lots, cents per gallon, except where otherwise noted.)

	Sept. 3	Aug. 26	Aug. 19
Gasoline, U. S. Motor, 53-55 Gravity	7.00 – 7.50	7.00 – 7.50	7.00 – 7.50
Gasoline, U. S. Motor-blends and special cuts	7.50 –10.00	7.50 –10.00	7.50 –10.00
Gas Oil, 30-34, per barrel	$0.95 –$1.05	$0.95 –$1.05	$0.95 –$1.05
Diesel Oil, 27 plus, per barrel	$0.875–$1.00	$0.875–$1.00	$0.875–$1.00
Bunker oil, 14-18, per barrel	$0.70 –$0.85	$0.70 –$0.85	$0.70 –$0.85
Fuel oil, 14-18 per barrel	$0.60 –$0.85	$0.60 –$0.85	$0.60 –$0.85
Kerosene, 38-40 w.w., 125-150 flash, per gal.	5.75 – 6.25	5.75 – 6.25	5.75 – 6.25
Cased Goods			
Gasoline, U. S. Motor	$1.75 –$1.85	$1.75 –$1.85	$1.75 –$1.85
Kerosene, 38-40 w.w., 125, 150 flash	$1.45 –$1.50	$1.45 –$1.50	$1.45 –$1.50

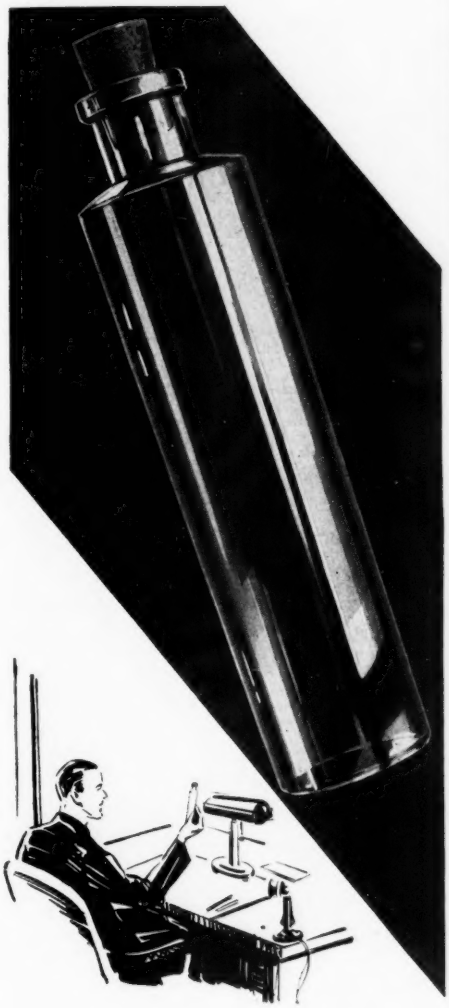
Tanker Rates

(Approximate tanker freight rates to Continental ports, in shillings per ton of 2240 pounds, British sterling; to American ports, cents per barrel.)

	Sept. 3 Crude &/or Fuel	Refined Oil &/or Spirits
Calif. to U. K. or Continental ports*	35	37/6
Gulf to U. K. or Continental ports*	23	22/6
North Atlantic to U. K. or Continental ports*	20	20
Calif. to North Atlantic ports (not E. of N. Y.)	$0.90-$1.00	$0.90
Gulf to North Atlantic ports (not E. of N. Y.)**	30–35	40–42

*Continental ports in the range between Bordeaux and Hamburg, both inclusive.
**Venezuela loading same rate. For Tampico 5c per bbl. additional.

Clear, brilliant sample oil bottles



—emphasize the quality of your oil

Send your oil samples in strong, clear bottles that reach the prospect's desk in A-1 condition. Owens-Illinois bottles are blown with that thought in mind.

These sample bottles are made of perfume bottle glass — clear and velvety smooth. The necks are designed to hold corks with the greatest tenacity.

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100% Pennsylvania Motor Oils

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Sell a 100% Pennsylvania Motor Oil—YES—and build up your business with FREEDOM 100% Pennsylvania Motor Oils—made from 460-470 flash Bright Stock (Sharples process) and 100% Pennsylvania Crude high flash Neutrals.

The former is made in the Coraopolis plant, the latter in the Freedom plant, of The FREEDOM Oil Works Company—an organization celebrating its fiftieth year of specialization in the refining of 100% Pennsylvania Crude, its Golden Anniversary of fair dealing.

Deliveries can be made in tank cars, compartment tank cars, barrels, or drums. Write for quotations.

Guaranteed 100% PURE PENNSYLVANIA OIL

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Also available for immediate shipment

460-470 flash, minimum 85 Visc., low cold test Bright Stock (Sharples process).

FREEDOM 100% Pennsylvania Crude high flash Neutrals.

100% Pennsylvania Motor Oils, blended to your own specifications from FREEDOM 460-470 Bright Stock and FREEDOM 100% Pennsylvania Crude high flash Neutrals.

FREEDOM 600 Steam Refined.

FREEDOM filtered low end point Kerosene.

THE FREEDOM OIL WORKS COMPANY
Freedom, Penna.
Established 1879
Refineries at Freedom and Coraopolis, Pennsylvania

FREEDOM

Tank Wagon Service Station Markets for Gasoline and Kerosene

(OIL PRICE HANDBOOK has t.w. and s.s. markets for a whole year, arranged for quick reference)

These Prices in Effect Sept. 2, 1929, as Posted by Principal Marketing Companies

S.O. NEW JERSEY TERRITORY

	Gasoline		Total		Oil
	T.W.	Tax	T.W.	S.S.	T.W
Atlantic City, N.J.	12	2	14	18	13
Newark, N. J.	14	2	16	20	13
Annapolis, Md.	14	4	18	22	13
Baltimore, Md.	14	4	18	22	12
Cumberland, Md.	14	4	18	22	13
Washington, D. C.	14	2	16	20	12
Danville, Va.	14	5	19	23	12
Norfolk, Va.	14	5	19	23	13
Richmond, Va.	14	5	19	23	13
Roanoke, Va.	13	5	18	21	13
Petersburg, Va.	14	5	19	23	13
Charleston, W. Va.	14	4	18	22	13
Keyser, W. Va.	14	4	18	22	13
Parkersburg, W. Va.	14	4	18	22	13
Wheeling, W. Va.	14	4	18	22	13
Charlotte, N. C.	14	5	19	23	13
Hickory, N. C.	14	5	19	23	13
Mt. Airy, N. C.	14	5	19	23	13
Salisbury, N. C.	12	5	17	20	13
Charleston, S. C.	14	6	20	24	13
Columbia, S. C.	14	6	20	24	13

CONTINENTAL OIL

Denver, Colo.	14	4	18	21	15.5
Pueblo, Colo.	14	4	18	21	15.5
Grand Junc., Colo.	18.5	4	22.5	25.5	19
Casper, Wyo.	17	4	21	24	14
Cheyenne, Wyo.	18	4	22	25	15.5
Butte, Mont.	20.5	5	25.5	28.5	20
Helena, Mont.	20.5	5	25.5	28.5	20
Salt Lake City, Utah.	18.5	3½	22	25	17
Boise, Ida.	20.5	4	24.5	27.5	19
Twin Falls, Ida.	20.5	4	24.5	28.5	19
Albuquerque, N. M.	16	5	21	24	17

S. O. CALIFORNIA

Phoenix, Ariz.	14	4	18	22	20.5
Los Angeles, Cal.	16.5	3	19.5	22.5	15.5
Fresno, Cal.	17	3	20	23	17
San Francisco, Cal.	17	3	20	23	15.5
Reno, Nev.	21	4	25	28	19
Portland, Ore.	17.5	3	20.5	23.5	16.5
Seattle, Wash.	17.5	3	20.5	23.5	16.5
Spokane, Wash.	21.5	3	24.5	27.5	20.5
Tacoma, Wash.	17.5	3	20.5	23.5	16.5

Note: 4c per gal. discount to dealers off t.w. price of gasoline to customers taking tank truck delivery, thru S. O. California territory, except 1c discount at Phoenix to dealers only.

S. O. LOUISIANA

Little Rock, Ark.	14	5	19	23	13
Alexandria, La.	‡14	4	‡18	‡22	†16
Baton Rouge, La.	12	4	16	20	†14.5
Lake Charles, La.	††14.5	4	††18.5	††22.5	†16
New Orleans, La.	*12.5	4	*16.5	20.5	†16
Shreveport, La.	13.5	4	17.5	21.5	†15
Lafayette, La.	**14	4	**18	**22	†14
Bristol, Tenn.	14	5	19	23	14
Chattanooga, Tenn.	11	5	16	20	16
Knoxville, Tenn.	13	5	18	22	16
Nashville, Tenn.	14	5	19	23	16
Memphis, Tenn.	13	5	18	22	12.5

*New Orleans gasoline prices include 1c parish tax in addition to 4c state tax, and kerosene prices include 1c state tax and 1c parish tax.

†Kerosene price in Louisiana includes 1c state tax.

**Lafayette gasoline prices include 1c parish tax in addition to 4c state tax.

††Lake Charles gasoline prices include 1c parishtax.

‡Alexandria gasoline prices include 1c Rapides Parish tax.

S. O. KENTUCKY

Ashland, Ky.	13	5	18	19	15.5
Catlettsburg, Ky.	13	5	18	19	15.5
Lexington, Ky.	15	5	20	22	15.5
Louisville, Ky.	16	5	21	23	15
Covington, Ky.	16	5	21	22	15.5
Clarksdale, Miss.	15	5	20	22	12.5
Gulfport, Miss.††	17.5	5	22.5	24.5	14
Jackson, Miss.	16	5	21	23	13
Natchez, Miss.	15.5	5	20.5	22.5	14
Vicksburg, Miss.	15.5	5	20.5	22.5	14
Birmingham, Ala.	16	4	20	22	15
Mobile, Ala.‡	16	4	20	22	15
Montgomery, Ala.*	17	4	21	23	16.5
Atlanta, Ga.	16	4	20	22	†16.5
Augusta, Ga.	14	4	18	20	†15.5
Macon, Ga.	17	4	21	23	†16.5
Savannah, Ga.	16	4	20	22	†15.5
Jacksonville, Fla.	16	6	22	24	14.5
Miami, Fla.	17	6	23	25	15.5
Tampa, Fla.	16	6	22	24	14.5
Pensacola, Fla.**	17	6	23	25	14.5

Note: Net price to dealers is 2c under posted t.w. price thru S. O. Kentucky territory.

*Local privilege tax of 1 cent on gasoline and ½ cent on kerosene at Montgomery included. ‡Mobile gasoline prices include 1c city tax.

†Georgia kerosene prices include 1c state tax.

**Both tank wagon prices include 1c city tax at Pensacola. which went into effect Oct. 15, 1926.

††Both tank wagon prices at Gulfport include Harrison county privilege tax of 2c.

Latest Changes in Tank Wagon Prices

Gasoline

S. O. New York—T. w. and s. s. both cut 3c, New York City, to 16 and 19c respectively, including 2c tax, **Aug. 30.**

S. O. Ohio—T. w. up 1c to 19c and s. s. up 2c to 20c, Greenville, assuming the state-wide structure, **Aug. 30.**

S. O. Kentucky—T. w. and s. s. both cut 2c, Augusta, to 18 and 20c respectively, including 4c tax, **Aug. 24.**

S. O. Louisiana—T. w. and s. s. both cut 2c, Knoxville, to 18 and 22c respectively, including 5c tax, **Aug. 24.**

Kerosene

Atlantic Refining—Kerosene cut 1c through Pennsylvania and Delaware to 13c **Sept. 1.**

Magnolia Petroleum—Kerosene cut 2c, Houston, to 11c, **July 26.**

S. O. NEBRASKA

	Gasoline		Total		Oil
	T.W.	Tax	T.W.	S.S.	T.W.
Omaha, Neb.	16.25	4	20.25	22.25	13.25
McCook	17.75	4	21.75	23.75	14.75
Norfolk	16.75	4	20.75	22.75	13.75
North Platte	17.75	4	21.75	23.75	14.50
Scottsbluff	17.75	4	21.75	23.75	14.25

S. O. INDIANA

Chicago, Ill.	16	3	19	20	13
Decatur, Ill.	16.2	3	19.2	20.2	13.1
E. St. Louis, Ill.	15.4	3	18.4	17.4	12.2
Joliet, Ill.	16.4	3	19.4	20.4	13.3
Peoria, Ill.	16.2	3	19.2	20.2	13.1
Quincy, Ill.	16.2	3	19.2	20.2	12.9
Indianapolis, Ind.	16.2	4	20.2	21.2	14.2
Evansville, Ind.	16	4	20	21	14
South Bend, Ind.	16.4	4	20.4	21.4	14.4
Detroit, Mich.	16.8	3	19.8	20.8	14.7
Grand Rapids, Mich.	16.7	3	19.7	20.7	14.6
Saginaw, Mich.	16.9	3	19.9	20.9	14.8
Green Bay, Wisc.	16.6	2	18.6	19.6	13.4
Madison, Wisc.	16.3	2	18.3	17.3	13.1
Milwaukee, Wisc.	16.1	2	18.1	19.1	12.9
La Crosse, Wisc.	17.2	2	19.2	20.2	14
Minneapolis, Minn.	17.2	3	20.2	21.2	13.9
Duluth, Minn.	17.5	3	20.5	21.5	13.9
Mankato, Minn.	17.1	3	20.1	21.1	13.7
Des Moines, Ia.	16.5	3	19.5	20.5	13.3
Davenport, Ia.	16.5	3	19.5	20.5	13.3
Sioux City, Ia.	16.1	3	19.1	20.1	12.9
Mason City, Ia.	16.5	3	19.5	20.5	13.3
St. Louis, Mo.	*15.9	2	17.9	18.9	12.3
Kansas City, Mo.	†16.9	2	18.9	19.9	11.6
St Joseph, Mo.	†16.5	2	18.5	19.5	12.2
Fargo, N. D.	18.9	3	21.9	22.9	15.9
Grand Forks, N. D.	19.2	3	22.2	23.2	16.2
Minot, N. D.	18.9	3	21.9	22.9	15.9
Pierre. S. D.	17	4	21	22	14.4
Huron, S. D.	17.3	4	21.3	22.3	14.7
Wichita, Kans.	14.8	3	17.8	18.8	11.8
Bartlesville, Okla.	14.5	4	18.5	19.5	11.5

S. O. Indiana's quantity contract price schedule thru territory except Chicago on tank truck deliveries of gasoline, figured from the service station price, is 2c for 500 gals. or more a month; 2½c for 2000 gals. or more a month and 3c for 6000 gals. or more a month

In Chicago and vicinity, these discounts apply Over 500 gals. per month, 2c per gal. off service station price; over 1,000 gals. per month, 4c per gal of service station price.

*Includes city tax of ½c.

†Includes city tax of 1c.

S. O. OHIO

	Gasoline		Total		Oil
	T.W.	Tax	T.W.	S.S.	T.W.
Ohio state-wide	15	4	19	20	13
Belmont, Columbiana, Jackson, Lorain, Mahoning, Meigs, Noble, Washington, Montgomery and Jefferson Counties, and *12 Competitive Points	14	4	18	18	13
At †6 Competitive Points	14	4	18	19	13
Bryan and Findlay	13	4	17	17	13

Note:—Discount to dealers and commercial accounts generally thru Ohio is 2c per gal. off t.w. price. Exceptions: 3c off in the 10 counties and 12 competitive points quoted on second line above and at Findlay, except that commercial accounts in Belmont, Columbiana, Jackson, Mahoning, Montgomery and Jefferson counties get 1c off, dealers get 3c.

†These 6 points are: Hicksville, Celina, Arlington Mortimer, Mendon, and Nevada.

*These 12 points are: Arcadia, Perrysburg, Fostoria, Wapakoneta, Urbana, Jamestown, Marion, St.Paris, Ada, Lima, Hamilton, and Piqua

MAGNOLIA PETROLEUM

Muskogee, Okla.	13	4	17	20	13
Oklahoma City.	13	4	17	20	10
Tulsa, Okla.	11	4	15	19	10
Fort Smith, Ark.†	11	†4	15	17	12
Little Rock, Ark.	14	5	19	23	13
Texarkana, Ark.*	13	*4	17	19	12
Dallas, Tex.	13	4	17	21	13
Fort Worth, Tex.	13	4	17	20	12
Houston, Tex.	13	4	17	21	11
San Antonio, Tex.	13	4	17	21	11
El Paso, Tex.	12	4	16	19	16

*Within city of Texarkana, the state tax on gasoline is 4c per gal. conforming with the Texas state tax. In this district outside of the city the 5c Arkansas tax applies.

†Within city of Fort Smith, Oklahoma tax of 4c applies. In this district outside of the city, the 5c Arkansas tax applies.

S. O. NEW YORK

Due to local price conditions at many points in S. O. New York territory, actual prices on both gasoline and kerosene are being made at under the posted tank wagon prices published below.

New York City	14	2	16	*19	15
Albany, N. Y.	16	2	18	20	15
Buffalo, N. Y.	16	2	18	20	14
Rochester, N. Y.	16	2	18	20	13
Syracuse, N. Y.	16	2	18	20	12
Boston, Mass.	16	2	18	20	15
Augusta, Me.	16	4	20	21	15
Manchester, N. H.	16	4	20	22	15
Burlington, Vt.	16	4	20	22	13

Note: S. O. New York allows concessions of 1 to 2c per gal. to dealers under posted tank wagon prices.

*The Standard of New York does not operate stations in New York City. This figure is the retail price of a principal station operator in New York selling Socony gasoline.

ATLANTIC REFINING

Pittsburgh, Pa.	17	*	17	23	13
Philadelphia, Pa.	17	*	17	23	13
Allentown, Pa.	17	*	17	23	13
Erie, Pa.	13	*	13	15	13
Scranton, Pa.	17	*	17	23	13
Altoona, Pa.	17	*	17	23	13
Williamsport, Pa.	16	*	16	20	13
Dover, Del.	17	3	20	22	13
Wilmington, Del.	17	3	20	22	13
Boston, Mass.	16	2	18	20	15
Springfield, Mass.	16	2	18	20	15
Worcester, Mass.	16	2	18	20	15
Fall River, Mass.	16	2	18	20	13
Providence, R. I.	16	2	18	20	13
Hartford, Conn.	16	2	18	20	14
New Haven, Conn.	16	2	18	20	15
Atlantic City, N. J.	14	2	16	18	13
Camden, N. J.	16	2	18	20	13
Trenton, N. J.	16	2	18	20	13

Above prices include these inspection fees on both gasoline and kerosene, per gallon: Alabama, 1/40c on gasoline, 1/2c kerosene; Arkansas, 1/20c on both Florida, 1/8c on both; Georgia, 1/10c on both; Indiana, 4/25c to 1/2c on both; Kansas, 3/50c on both; Louisiana, 1/32c on gasoline; Minnesota, 3/50c on both; Missouri, 3/10c to 1/2c on both; Nebraska, 3/50c to ½c on both; North Carolina, 1/4c on both; North Dakota, 1/20c on both; Oklahoma, 4/25c on both; South Carolina, 1/8c on both; South Dakota, 1/10c on both; Tennessee, 2/5c on gasoline and 1/2c to 4/5c on kerosene; Wisconsin, 3/50c on both.

Kerosene inspection fees only, per gallon; Iowa, 7/100c; Michigan 1/5c to 4/5c per gal.

In Illinois, cities and villages have the power to appoint oil inspectors and fix inspection fees which is done in some instances. In some cases in the above state or other states there are local inspection fees.

Tank Wagon, Service Station Markets for Gasoline and Kerosene

Prices in Effect Sept. 2, 1929

ATLANTIC REFINING

	Gasoline T.W.	Tax	Total T.W.	S.S.	Oil T.W.
Annapolis, Md.	16	4	20	22	13
Baltimore, Md.	16	4	20	22	13
Hagerstown, Md.	16	4	20	22	13
Richmond Va.	16	5	21	23	13
Wilmington, N. C.	16	5	21	23	13
Brunswick, Ga.	17	4	21	23	**16.5
Jacksonvlle, Fla.	17	6	23	25	14.5

Note: 2c per gal. discount off t.w. price to dealers thru territory: also 2c off to commercial accounts under contract for one year.

*4-cent state tax is collected by retail dealer and paid by him directly to state.

**Georgia kerosene prices include 1c state tax.

V. M. & P. NAPHTHA

(Changes ordinarily occur coincident with gasoline price changes)

	Oleum Spirits	V.M.&P. Naphtha	Cleaner Naphtha
Chicago	15.7	17.2	19
Detroit	17.4	18.9	20.7
Kansas City	†15.9	†17.4	†19.2
Milwaukee	16.4	*19.9	*21.7
Minneapolis	*19.7	*21.2	*23
St. Louis	15.6	17.1	18.9
New York		17	23
Boston		19	23

*Includes 2c state tax. †Includes 1c city tax.

Petroleum Spirits

Tank Cars (Solvent)

New York refineries	12.00
Philadelphia refineries	11.50-12.00

Tank Wagon or Steel Barrels

New York City	17-18
New England	19
New Jersey	16-19
Pennsylvania	18

Note: 2c off above t.w. prices to large buyers in some instances.

CANADA

(Per Imperial Gallon, which is 1.2 American Gallons)

	Gasoline T.W.	Tax	Total T.W.	S.S.	Oil T.W.
ONTARIO					
Toronto	20.5	5	25.5	29	21
Ottawa	14.5	5	19.5	23	21
Cochrane	25.5	5	30.5	..	26
Ft. William	23.5	5	28.5	32	23.5
MANITOBA					
Winnipeg	22.5	3	25.5	29	22.5
SASKATCHEWAN					
Regina	27	3	30	34	27
ALBERTA					
Edmonton	28.5	5	33.5	37	28.5
Calgary	24.5	5	29.5	33	24.5
BRITISH COLUMBIA					
Vancouver	23	3	26	30	24
QUEBEC					
Montreal	21.5	5	26.5	30	22
Quebec City	22.5	5	27.5	31	23
Three Rivers	22.5	5	27.5	31	23
NEW BRUNSWICK					
St. John	25	5	30	34	25
Moncton	25	5	30	34	25
NOVA SCOTIA					
Halifax	25	5	30	34	25
Sydney	25	5	30	34	25
PRINCE EDWARD ISLAND					
Charlottetown	25	5	30	34	25

Note: In districts surrounding these points 1c additional is added to city price.

Skilled Supervision
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Gulf Products

COASTAL AND PARAFFINE CRUDES
GASOLINE — LUBRICATING OILS
NAPHTHA — GAS — OILS
WAX — PETROLEUM COKE
CYLINDER—ENGINE—CORDAGE

Gulf Refining Company

General Sales Offices
PITTSBURGH, PA.

District Sales Offices
New York, Boston, Philadelphia, Louisville, Atlanta, Houston, New Orleans

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Electric Welded—Oil Tight

Field or Factory Built

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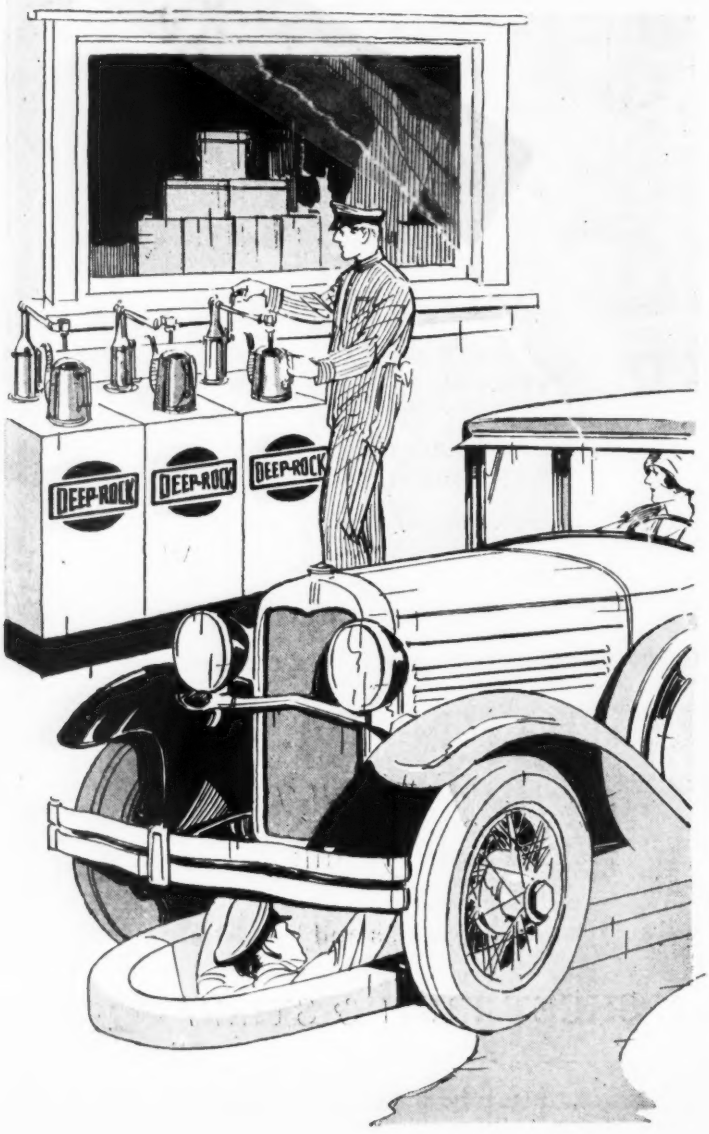
BROWN SHEET IRON & STEEL CO.
St. Paul Minnesota

GASOLINE

DEEP-ROCK

MOTOR OIL

OIL that's *all* oil..*and why!*

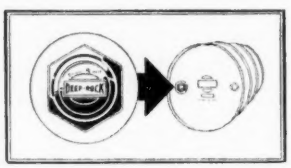


You can now positively guarantee the unadulterated purity of DEEP-ROCK Prize Motor Oils.

Certified at the DEEP-ROCK refinery, the oil is then sealed in a steel drum, registered by number and traceable (like a registered letter) to its final destination.

You are first to break the seal. You know for sure that it's the same *100 per cent pure paraffine oil* that was shipped from the DEEP-ROCK refinery.

This is just one of many sales productive features which go with the DEEP-ROCK franchise. Write us for further particulars . . . you'll instantly recognize our proposition as a business builder and money maker.



SHAFFER OIL and REFINING COMPANY

General Offices: 300 W. Adams St., Chicago, Ill.

Crude Oil Prices (in Effect Sept. 2, 1929)

(Crude prices for the whole year in OIL PRICE HANDBOOK published annually)

EASTERN FIELDS

(Posted by Joseph Seep Purchasing Agency)

Penna. Grade Oil in New York Transit Lines (Allegheny, N. Y. District)	*$3.30
Bradford District Oil in National Transit Lines (Bradford District)	*3.30
Penna. Grade Oil in National Transit Lines (Other Pennsylvania)	*3.30
Penna. Grade Oil in Southwest Penna. Pipe Lines (Other Pennsylvania)	3.25
Penna. Grade Oil in Eureka Pipe Lines (West Virginia)	3.15
Penna. Grade Oil in Buckeye Pipe Lines (Macksburg, O. district)	2.95
Corning Grade in Buckeye Pipe Lines (Ohio)	1.90
Corning, O., heavy grade	1.80
Somerset Oil in Cumberland Pipe Lines (Kentucky)	1.80
Ragland Grade in Cumberland Pipe Lines (Kentucky)	$0.60

***Oil run prior to July 1, 1929 is $3.25 per bbl.**

(Posted by Stoll Oil Refining Co.)

Oil City, Ky., oil in Stoll lines	$1.80

MICHIGAN

(Posted by Dixie Oil Co.)

Dundee (Muskegon)	$1.25

Traverse (Muskegon):

32-32.9	$1.25	37-37.9	$1.50
33-33.9	1.30	38-38.9	1.55
34-34.9	1.35	39-39.9	1.60
35-35.9	1.40	40-40.9	1.65
36-36.9	1.45	41-41.9	1.70

(Posted by Pure Oil Co.)

Midland, Midland County	$1.70

CENTRAL STATES FIELDS

Posted by Ohio Oil Co.

Effective May 21, 1929

Wooster	$1.90	Princeton	$1.75
Lima	1.80	Illinois	1.75
Waterloo	1.20	Plymouth	1.28
Indiana	1.57	West Kentucky	1.83

CANADIAN CRUDE

Posted by Imperial Oil Refineries, Ltd.

Petrolia	$2.20
Oil Springs	2.27

OKLAHOMA, KANSAS and NORTH TEXAS

Prices of Prairie Oil & Gas Co.

(In Oklahoma, Kansas, North and East Central Texas)

Effective May 20, 1929

Below 25	$0.85	35-35.9	$1.40
25-25.9	0.90	36-36.9	1.45
26-26.9	0.95	37-37.9	1.50
27-27.9	1.00	38-38.9	1.55
28-28.9	1.05	39-39.9	1.60
29-29.9	1.10	40-40.9	1.65
30-30.9	1.15	41-41.9	1.70
31-31.9	1.20	42-42.9	1.75
32-32.9	1.25	43-43.9	1.80
33-33.9	1.30	44 and above	1.85
34-34.9	1.35		

Humble Oil & Refining Co. Prices

(Ranger, North Texas, Mexia, Powell, Boggy Creek, Richland, Wortham, Lytton Springs, Currie, Moran and Nocona crudes all in Texas.)

May 20, 1929, same schedule as Prairie in above fields.

Magnolia Petroleum Co.

(In Oklahoma, Kansas and North and East Central Texas)

May 20, 1929, Magnolia posted in above fields and in Panola Co., same schedule as Prairie, except these grades:

Below 26	$0.70	29-29.9	$0.95
26-26.9	0.75	30-30.9	1.05
27-27.9	0.85	31-31.9	1.15
28-28.9	0.90		

May 20, 1929, Glasscock, Crane, Upton, Winkler, Howard and Mitchell Counties same prices as Humble's postings in West Texas which see.

Iatan district	$0.93
Corsicana heavy	0.80
Luling	0.90
Mirando	0.90

Carter Oil Co.

(Oklahoma and Kansas)

May 20, 1929, same schedule as Prairie except Carter does not post oil below 25.

PANHANDLE, TEXAS

Humble Oil & Refining Co.

Effective May 20, 1929

Hutchinson and Carson Counties:

Below 32	$0.90	38-38.9	$1.25
32-32.9	0.95	39-39.9	1.30
33-33.9	1.00	40-40.9	1.35
34-34.9	1.05	41-41.9	1.40
35-35.9	1.10	42-42.9	1.45
36-36.9	1.15	43-43.9	1.50
37-37.9	1.20	44 and above	1.55

Wheeler County:

Below 30	$0.90	37-37.9	$1.30
30-30.9	0.95	38-38.9	1.35
31-31.9	1.00	39-39.9	1.40
32-32.9	1.05	40-40.9	1.45
33-33.9	1.10	41-41.9	1.50
34-34.9	1.15	42-42.9	1.55
35-35.9	1.20	43-43.9	1.60
36-36.9	1.25	44 and above	1.65

Gray County:

Below 29	$0.90	37-37.9	$1.35
29-29.9	0.95	38-38.9	1.40
30-30.9	1.00	39-39.9	1.45
31-31.9	1.05	40-40.9	1.50
32-32.9	1.10	41-41.9	1.55
33-33.9	1.15	42-42.9	1.60
34-34.9	1.20	43-43.9	1.65
35-35.9	1.25	44 and above	1.70
36-36.9	1.30		

Above prices met by The Texas Co. and Magnolia on May 20.

WEST TEXAS

Humble Oil & Refining Co.

Effective May 20, 1929

Winkler, Crane, Upton, Crockett, Howard and Pecos Counties, also Lea County, N. Mex.

Below 25	$0.70	25-25.9	$0.74
26-26.9	0.78	32-32.9	$1.02
27-27.9	0.82	33-33.9	1.06
28-28.9	0.86	34-34.9	1.10
29-29.9	0.90	35-35.9	1.14
30-30.9	0.94	36 and above	1.18
31-31.9	0.98		

May 20, 1929, The Texas Co. posted same prices as Humble in Crane, Upton, Pecos and Winkler., and Magnolia in Crane, Upton, Winkler, Glasscock, Howard and Mitchell

SOUTHWEST TEXAS

(Posted by Humble Oil & Refining Co.)

Effective May 20, 1929

Mirando	$0.90
Salt Flat	1.25

NORTH LOUISIANA—ARKANSAS FIELDS

Prices of Standard Oil Co. of Louisiana

Caddo, Homer, Haynesville, Bull Bayou, El Dorado, Crichton, De Soto and **Cotton Valley.

Effective May 22, 1929

Below 28	$1.00	36-36.9	$1.45
28-28.9	1.05	37-37.9	1.50
29-29.9	1.10	38-38.9	1.55
30-30.9	1.15	39-39.9	1.60
31-31.9	1.20	40-40.9	1.65
32-32.9	1.25	41-41.9	1.70
33-33.9	1.30	42-42.9	1.75
34-34.9	1.35	43-43.9	1.80
35-35.9	1.40	44 and above	1.85

**Cotton Valley, below 36, $0.85. Beginning with 36-36.9, same schedule as above.

Smackover, below 24			$0.85
do	24 and above		1.00
Bellevue			1.30
*Urania, La.			1.10
†East El Dorado			0.75

*Posted by Louisiana Oil Refining Corp.

†Posted by Magnolia Petroleum Co.

May 20, The Texas Co. same schedule in Louisiana as Standard, plus these grades: 24-24.9, $0.85; 25-25.9, $0.90; 26-26.9, $0.95; 27-27.9, $1.00.

May 22, Magnolia, Atlantic, Shreveport-Eldorado Pipe Line, Louisiana Oil, and Gulf Companies met Standard schedule in Louisiana-Arkansas fields.

STEPHENS, ARKANSAS

Louisiana Oil Refining Corp., and Atlantic Oil Producing Co.

Effective May 22, 1929

Below 28	$0.90	30-30.9	$1.02
28-28.9	0.94	31-31.9	1.06
29-29.9	0.98	32 and above	1.10

GULF COASTAL

Posted by Humble Oil & Refining Co.

Effective May 20, 1929

Grades A	$1.30	29-29.9	$1.30
Grades B:		30-30.9	1.33
Below 25	$1.15	31-31.9	1.36
25-25.9	1.18	32-32.9	1.39
26-26.9	1.21	33-33.9	1.42
27-27.9	1.24	34-34.9	1.45
28-28.9	1.27	35 and above	1.48

Fields classified as A and B are Spindletop, Goose Creek, Hull, Liberty, Sour Lake, West Columbia, Orange, Boling, Pierce Junction, Sugarland and Raccoon Bend. All other fields are Grades A only.

Automobile Output May Reach Six Million

PHILADELPHIA, Aug. 31.—Automotive Industries last week said:

Automobile production during the last several days has shown a slight rise over the first half of the month, when the factories, taken as a whole, showed increased activity as compared with July, and a considerable advance over the level of last year. With the continuation of the long-sustained demand in the field and the consequent high production thus far this year, early predictions of 5,000,000 automobiles and trucks in the United States and Canada for the year generally have been revised upwards.

Production during the first seven months of this year has been estimated at 3,920,000 units and in the absence of any indication of widespread curtailment in the industry as a whole, estimates for the year's output have been placed at 5,500,000 in many quarters. Mention of 6,000,000 units as the possible showing of the entire industry for the year is considered by a number of experts within reason, in view of the huge increases in export business.

Taking an estimate of 500,000 cars and trucks for August production, a figure considered conservative by several students of production trends, and adding this to the estimated production of 3,920,000 units for the first seven months of the year, gives the tentative figure of 4,420,000 cars and trucks for the first eight months of the year. This would leave 1,080,000 units to be produced in the last four months in order to bring the total for the year to 5,500,000 for the entire industry, or an average of 270,000. This would compare with an actual output of 1,304,777 units for the last four months of last year.

While, of course, it is too early to predict the extent of possible curtailment in the last four months of this year, this being dependent upon the demand in the field, the opinion that it will be sufficient to bring the year's total below 5,500,000 is rare.

Road Meeting Planned

CLEVELAND, Aug. 31.—A nation-wide movement to improve "farm-to-market" or auxiliary roads will be launched at a conference at West Baden Springs, Ind., Oct. 28 to Nov. 1. State and county officials, farm and motor organization members and engineers and contractors are being invited to attend.

Discussion will center on the type of low cost roads for all weather use which can be built and methods of getting the work done.

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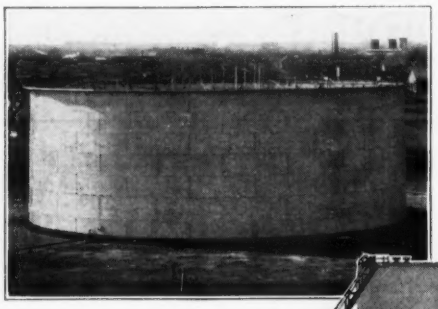
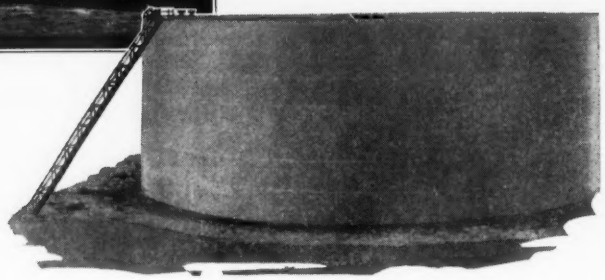


Left: 55,000-barrel gasoline tank equipped with a Wiggins Floating Roof. Below: Wiggins Breather Roof on a 55,000-barrel standing storage tank.



STOP EVAPORATION on every oil tank

Every time crude oil, gasoline or other refined products are put in ordinary storage tanks the best part of it evaporates. This loss can be stopped by using Horton tanks equipped with Wiggins Roofs and by putting Wiggins Roofs on existing tanks.

The Wiggins Floating Roof rides directly on the oil in a tank. No vapor can form to escape as there is no air space between the roof and the oil. This type of roof stops breathing losses as well as filling losses on working tanks.

On standing storage tanks the Wiggins Breather Roof stops practically all evaporation loss. It flexes up and down, taking care of thermal expansion and contraction without allowing vapor to escape from the tank. The vents remain closed and no evaporation takes place.

Whenever installing tanks for marketing, refinery or field storage purposes, let us quote you our price on erecting them complete with the proper type of roof. We have a complete range of standard sizes from 25,000 gallons up.

CHICAGO BRIDGE & IRON WORKS

Chicago - - - - 2125 Old Colony Bldg.
New York - 3145 Hudson Terminal Bldg.
Cleveland - - - 2206 Union Trust Bldg.
Dallas - - - - - 3339 Magnolia Bldg.
Atlanta - - - - - 1050 Healey Bldg.
San Francisco - - - 1060 Rialto Bldg.

B 100

ADAMSON

WELDED TANKS

All Capacities-65 to 20,000 Gallons

ADAMSON MFG. CO. EAST PALESTINE O

Crude Oil Prices (in Effect Sept. 2, 1929)

(Crude prices for the whole year in OIL PRICE HANDBOOK published annually)

GULF COASTAL

Prices of The Texas Co.

Effective May 20, 1929

Grades A	$1.30	*Grades B	$1.15
‡Grades B (light crude):			
35-35.9	$1.49	40-40.9	$1.69
36-36.9	1.53	41-41.9	1.73
37-37.9	1.57	42-42.9	1.77
38-38.9	1.61	43-43.9	1.81
39-39.9	1.65	44 and above	1.85

*Grades B include all heavy crudes which do not meet tests for Grades A or for Gulf Coast light crude.

‡The Texas Co.'s gravity and price schedule on all below 35° is same as Humble's postings on Grades B.

ROCKY MOUNTAIN FIELDS

Prices of Ohio Oil Co., and Midwest Refining Co.

(Salt Creek prices effective May 20, 1929)

‡Salt Creek 29-29.9	$1.10
" " 30-30.9	1.15
" " 31-31.9	1.20
" " 32-32.9	1.25
" " 33-33.9	1.30
" " 34-34.9	1.35
" " 35-35.9	1.40
" " 36-36.9	1.45
" " 37 and above	1.50
Elk Basin	1.65
Grass Creek light	1.65
Big Muddy	$1.43
Lance Creek	1.68
Rock Creek	1.40
Mule Creek	1.20
Rex Lake	1.10
‡Osage	1.65
‡Cat Creek, Mont.	1.65
Sunburst, Mont.	1.75
‡Hogback, N. Mex.	1.70
Artesia, N. Mex.	1.08

‡Posted by Midwest Refining Co. Midwest also buys Grass Creek light and Elk Basin.

CALIFORNIA

***Standard Oil Co. of California**

Gravity	Signal Hill Seal Beach Alamitos Heights Huntington Beach	Inglewood Torrance	Olinda-Brea Canon Richfield	Athens-Rosecrans Dominguez	Elwood Terrace	Whittier La Habra	Coyote Hills	Santa Fe Springs	Newhall McKittrick Kern River	Midway Sunset Buena Vista & Elk Hills	Lost Hills	Coalinga	Wheeler Ridge	Montebello	Kettleman Hills	*Santa Maria (Orcutt)	*Ventura
14-14.9	$ .70	$ .70	$ .70	....	....	$ .70	$ .70	....	$ .50	$ .50	$ .50	$ .50	$ .50	$ .70	....	$ .65	$ .70
15-15.9	.70	.70	.70	....	....	.70	.70	....	.50	.50	.50	.50	.50	.70	....	.65	.70
16-16.9	.70	.70	.70	....	....	.70	.70	....	.50	.50	.50	.50	.50	.70	....	.65	.70
17-17.9	.70	.70	.70	....	....	.70	.70	....	.50	.50	.50	.50	.50	.70	....	.65	.70
18-18.9	.75	.75	.75	....	....	.75	.75	....	.50	.56	.56	.56	.56	.70	....	.70	.75
19-19.9	.80	.80	.80	....	....	.80	.80	....	.50	.62	.62	.62	.62	.75	$1.65	.70	.80
20-20.9	.85	.85	.85	....	....	.84	.84	....	....	.68	.68	.68	.68	.80	for	.70	.85
21-21.9	.89	.89	.89	....	....	.88	.88	.89	....	.74	.74	.74	.74	.85	55°	.86	.86
22-22.9	.93	.93	.93	....	....	.91	.91	.92	....	.80	.80	.80	.80	.90	gravity	.87	.87
23-23.9	.97	.97	.97	....	....	....	.94	.95	....	.85	.85	.85	.85	.95	and	.90	.90
24-24.9	1.01	1.01	1.01	1.01	....	....	.97	.98	....	.90	.90	.88	.88	.98	over	.94	.94
25-25.9	1.05	1.05	1.05	1.05	....	....	1.00	1.01	....	.95	.95	.91	.91	1.01	....	.98	.98
26-26.9	1.09	1.09	1.09	1.09	....	....	1.04	1.04	....	1.00	1.00	.94	.94	1.04	....	1.02	1.02
27-27.9	1.13	1.13	1.13	1.13	....	....	1.08	1.07	....	1.05	1.05	.98	.97	1.07	....	....	1.06
28-28.9	1.17	1.17	1.17	1.17	....	....	1.12	1.10	....	1.10	1.10	1.02	....	1.10	....	....	1.10
29-29.9	1.21	....	1.21	1.21	....	....	1.16	1.15	....	1.16	1.16	1.06	....	1.13	....	....	1.14
30-30.9	1.25	....	1.25	1.25	....	....	1.20	1.20	....	1.22	1.22	1.10	....	1.16	....	....	1.18
31-31.9	1.30	....	....	1.30	....	....	....	1.25	....	1.28	1.28	1.14	....	....	....	....	1.23
32-32.9	1.35	....	....	1.35	....	....	....	1.30	....	1.34	1.34	1.18	....	....	....	....	1.28
33-33.9	....	....	....	1.41	....	....	....	1.35	....	1.40	1.40	1.22	....	....	....	....	1.34
34-34.9	....	....	....	1.47	$1.16	....	....	1.40	....	....	1.46	1.26	....	....	....	....	....
35-35.9	....	....	....	1.53	1.22	....	....	1.45	....	....	....	1.30	....	....	....	....	....
36-36.9	....	....	....	1.59	1.28	....	....	1.50	....	....	....	....	....	....	....	....	....
37-37.9	....	....	....	1.65	1.34	....	....	1.55	....	....	....	....	....	....	....	....	....
38-38.9	....	....	....	1.71	1.40	....	....	1.60	....	....	....	....	....	....	....	....	....
39-39.9	....	....	....	1.77	1.46	....	....	1.65	....	....	....	....	....	....	....	....	....
40-40.9	....	....	....	1.83	1.52	....	....	....	....	....	....	....	....	....	....	....	....
41-41.9	....	....	....	1.89	1.58	....	....	....	....	....	....	....	....	....	....	....	....
42-42.9	....	....	....	1.95	1.64	....	....	....	....	....	....	....	....	....	....	....	....

*Santa Maria and Ventura postings are by Union Oil Co. Union Oil Co. posts same prices in all above fields as Standard except it does not post prices in Wheeler Ridge, Whittier, La Habra, Newhall and Kettleman Hills. Standard does not contract for crude testing 11-13.9 gravity, but pays 45c a barrel when purchased.

REFINERS' and COMPOUNDERS' SUPPLIES

Following are average market prices for materials used by refiners and compounders effective on the date shown.

Refiners' Supplies

	Sept. 3	Aug. 26
Soda Ash light 58% bags, cwt.	$1.32	$1.32
Silicate of Soda 60 deg. drums, cwt.	$1.55	$1.55
Silicate of Soda 40 deg. tank cars, cwt.	$0.60	$0.60
Silicate of Soda 40 deg. drums cwt.	$0.80	$0.80
Sal Soda wks.	$0.90-1.00	$0.90-1.00
Caustic Soda 76% solid, cwt.	$2.90	$2.90
Sulfuric Acid 60 deg. tank cars, f.o.b. shipping point per ton	$11.00	$11.00
Oleum 20%, fuming sulfuric, tank cars, wks.	$18.50	$18.50
Sulfur, flowers of, cwt.	$3.10-4.00	$3.50-4.50
Liquid Chlorine, tank cars, wks, lb.	3.50–5.00	3.50–5.00

Compounders' Supplies

	Sept. 3	Aug. 26
Vegetable Oils		
Linseed carloads, spot, lb.	12.80	12.80
Tanks, spot	12.00	12.00
Soya Bean, Tanks, coast, lb.	9.50	9.50
Oleic Acid		
Distilled, tanks, lb.	9.75	9.75
Distilled, bbls, lb.	10.875	10.875
Saponified, tanks, lb.	9.75	9.75
Saponified, bbls, lb.	10.625	10.625
Lard Oils		
Prime Winter Strained, lb.	15.25	15.25
Extra Winter Strained, lb.	12.75	12.75
Extra, lb.	12.50	12.50
Extra No. 1, lb.	12.00	12.00
No. 1, lb.	11.75	11.75
No. 2, lb.	11.50	11.50
Tallow oil, lb.	11.00	11.00
Neatsfoot Oil		
Pure, bbls, lb.	14.50	14.50
Extra, bbls, lb.	12.25	12.25
No. 1 bbls, lb.	12.00	12.00
Cold Pressed, lb.	18.50	18.50
Fish Oils		
Menhaden Oil		
Light Pressed, gal.	70	80
Light Pressed, tank cars, N.Y. gal.	58–60	58–60
White bleached, gal.	77	77
Yellow bleached, gal.	75	75
Whale, extra winter bleached, gal.	82	82
Naval Stores		
Steam distilled turpentine, N. Y., gal.	51	51
Steam distilled turpentine, Savannah, gal.	45	45
Gum turpentine, N. Y., gal.	50	50
Gum turpentine, f.o.b. cars Savannah, gal.	48	48
Wood Rosin F, N. Y., bbl.	$7.55	$7.55
Wood Rosin F, Savn'h, bbl.	$6.50	$6.50
Gum Rosin B, N. Y., bbl.	$8.65	$8.65
Gum Rosin B, f.o.b. cars Savannah, bbl.	$7.75	$7.75
Rosin oil, pure, gal.	61	61
Rosin oil, compounded, gal.	50	50
Pine Tar		
Kiln burnt, bbl.	$13.00–14.00	$13.00–14.00
Retort, bbl.	$13.50–14.50	$13.50–14.50
Alcohol		
Denatured Formula 5, in bbls., per gal.	58–65	58–65

OIL STOCKS AND FINANCES

National Petroleum News

Asphalt May Soon Pay Common Dividends

CLEVELAND, Aug. 31.—General Asphalt Co. may be expected shortly to pay dividends on its common stock as a result of a proposed simplification of its capital structure, President Arthur W. Sewall has notified all preferred and common stockholders.

The company has called for redemption on Oct. 1 all its outstanding 6 per cent convertible bonds of which $4,205.800 principal amount was outstanding Jan. 1, 1929.

The company also will call for redemption on Dec. 23 all its preferred stock.

The company proposes to offer stockholders of record Oct. 23 right to subscribe for additional common stock at $50 a share. The amount of the offering was not announced. Common stock is also to be altered from $100 par a share to no par value, subject to a vote of stockholders at a special meeting soon.

General Asphalt oil interests in western Venezuela are to be segregated in a new company all of whose stock will be held by the General.

The conversion of preferred stock and offering of common stock has been underwritten by Drexel & Co., Philadelphia.

General Asphalt netted for the common $296,555 in the first half of 1929 as compared with a deficit of $506,921 after preferred stock dividends in the first half of 1928.

Most Transcontinental Preferred Retired

CLEVELAND, Aug. 31.—Only 280 preferred shares of the Transcontinental Oil Co. were outstanding July 31, a balance sheet adjusted to give effect to the new capital structure of the company, reveals.

Of the 157,220 shares retired recently, 157,090 were retired under option B which called for the payment of $90 cash and five common shares for each preferred share. Only 130 shares were retired under option A under which $135 was paid for each preferred share.

The balance sheet also showed current assets of $10,698,228, including more than $7,000.000 cash, and current liabilities of $781,129, a ratio of 13.6 to 1.

New members of Transcontinental's board are Amos L. Beaty, who succeeded C. H. Huston as chairman; M. G. B. Whelpley, vice-president of Chase Securities Corp., New York; Theodore Schulze, president of Theodore Schulze Co., Inc., and Edward Robinette, president of Stroud & Co., Philadelphia. The last three succeeded M. L. Benedum, A. B. Dally, Jr., and J. L. Kirkland.

Tire Output Up; Prices Down

CLEVELAND, Aug. 31.—Manufacturers of automobile and motor truck tires used 106,299 long tons of crude rubber in the second quarter of the year in the production of casings and tubes. Consumption in the first quarter totaled 98,129 long tons.

In the first half of 1928 rubber consumption for this purpose totaled 152,249 long tons. The 204,428 tons consumption the first half of this year represents an increase of 34 per cent.

The dollar volume of sales in the first half of this year was $206.811.000 as compared with $203,050,000 the first half of 1928.

Financial Notes

Cities Service Co.—Profit in 12 months ended July 31 amounted to $31,933,692 as compared with $29,191,-918 in preceding 12 months.

* * *

Mid-Continent Petroleum Co.—President Jacob France has denied truth of rumors that Mid-Continent is to acquire Wentz Oil Co.

* * *

Paragon Refining Co.—President E. W. Edwards has stated reported impending merger with Valvoline Oil Co. was still in conversational stage.

* * *

Prairie Oil & Gas Co.—After lapse of two years dividends are to be resumed Sept. 30. The quarterly dividend will be 50 cents a share, the same as in 1927 before payments were passed. An extra dividend of 25 cents a share also is to be paid Sept. 30.

S. O. Indiana Votes Capital Increase

CLEVELAND, Aug. 31.—Stockholders of Standard Oil Co. of Indiana at a special meeting Aug. 27 at Whiting voted to increase the authorized capital stock from 15,000,000 to 18,000,-000 $25 par shares. The new stock will provide for an exchange for stock in the controlled Pan American Petroleum & Transport Co.

Stockholders also ratified the plan to exchange seven Indiana shares for six Pan American common or class B. The class B stock is non-voting.

The exchange offer expires Nov. 30. The National City bank of New York is acting as depository for the Pan American stock.

At the Whiting meeting 8.914,369 Indiana shares were voted. This number was 64 per cent of the outstanding stock.

Italo Properties Sold To McKeon Oil Co.

LOS ANGELES, Aug. 30.—Stockholders of the Italo Petroleum Corp. have approved plan to sell its properties to the new McKeon Oil Co. headed by John McKeon.

The McKeon company has authorized capital of 2,000,000 no par shares of which 1,050,000 will be outstanding presently. It also will have outstanding $5,000,000 5½ per cent 10-year bonds.

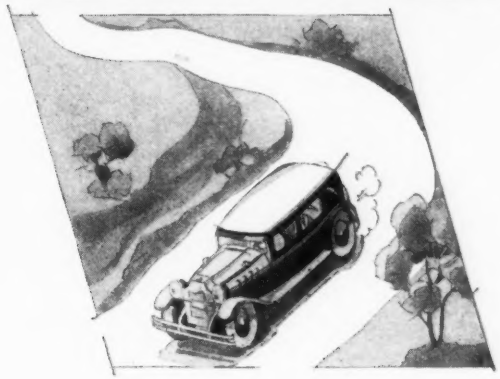
About 660,000 shares, or 57 per cent of the outstanding McKeon stock, will be held by the Italo company.

The properties are reported to be producing about 16,000 barrels daily. James G. Stanley, formerly with the Continental Oil Co., is chairman of the McKeon Oil Co.

Teagle Denies Merger Talk

CLEVELAND, Aug. 31.—Walter C. Teagle is quoted in New York newspapers as saying, "There is absolutely nothing to it," to rumors that the Department of Justice had been asked unofficially to pass upon the legality of a merger of the Standard Oil Co. (N. J.) and the Standard Oil Co. of California.

MILEAGE



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Motul has greater *cohesiveness* and greater *adhesiveness* than ordinary oils. It is *highly viscous* and practically *non-volatile*. Thus Motul not only makes a more effective piston seal—not only reduces dilution and contamination in the crank case—it *stands up* under *greater heat* and for *longer time; gives perfect lubrication for more miles!*

More—and *better*—miles of lubrication have given Motul an *ever-increasing* popularity. Distributors are invited to write regarding open territory for this 100% Pure Pennsylvania Oil.

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GOOD as GOLD

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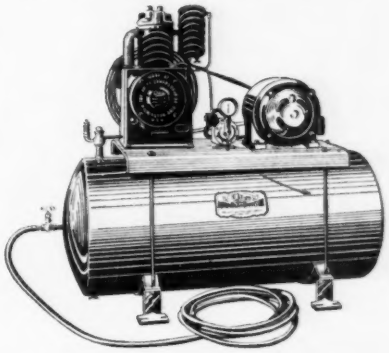

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A solution of an Oakite material in water sprayed on or applied with brushes speedily removes all dirt, grime and oily deposits leaving surfaces amazingly fresh and new looking. No fumes—no danger—no fire hazard. Equally effective for cleaning insides of tanks, and for many other jobs.

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OAKITE
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Transactions in Oil Shares on New York Stock Exchange

1928 High	1928 Low	1929 High	1929 Low	Listed Capital	Par Value	Stocks	Div. Rate	Last Paid	Transactions Week Ended Aug. 31 Sales	First	High	Low	Last	Change
43⅜	27⅛	42⅝	22½	(sh) 922,075	N.P.	Amerada Corp	50cQ	July 31, 29	5,400	28⅛	28⅛	27	27	— 2¼
85	51¼	64¾	31	(sh) 209,180	N.P.	American Republics Corp	....	.....	2,400	40	40⅛	38⅜	39⅛	— 2¾
53⅜	37½	47¼	40	$56,000,000	$25	Associated Oil	50cQ	June 30, 29	260	44	45⅛	44	45⅛	+ ⅞
62½	50	77⅞	53½	50,000,000	25	Atlantic Refining	‡25cQ	June 15, 29	39,900	68	68½	66⅛	67¼	— ⅜
53	20	49⅛	33½	47,261,125	25	Barnsdall Corp. A	‡50cQ	Aug. 6, 29	29,000	38¼	39⅜	37⅛	38⅝	+ ⅝
51⅛	20	49	38⅛	300.525	25	do B	‡50cQ	Aug. 6, 29	.....	.....	.....	.....	.....	.....
24½	12¼	32	20	(sh) 956,075	N.P.	Beacon Oil	....	.....	16,000	29¼	30	28½	28½	— 1½
36	25¼	30	25	$51,524,150	$25	California Petroleum	....	Jan. 1, 29	50	34½	34½	34½	34½	+ 4½
.....	....	37¾	29½	(sh) 4,634,163	N.P.	Continental Oil (Delaware)	....	.....	20,200	34⅝	35⅛	33⅜	33½	— 1¾
94⅞	68	94¾	63	21,031,400	100	General Asphalt	....	.....	13,700	90½	92	87⅝	88	— 2½
141	110⅛	141	104½	6,628,200	100	do pfd	$1.25Q	Sept. 3, 29	400	...	136	135	136	— 5
167	79	107	68¾	25,000,000	100	Houston Oil	....	.....	3,200	78½	80¾	76	77½	— ¾
38⅜	21¾	39¼	29⅛	(sh) 1,333,157	N P.	Independent Oil & Gas	50cQ	Apr. 30, 29	5,600	33¼	33¼	32⅜	32⅝	— ¾
39⅝	9	53⅛	29	$4,299,190	$10	Indian Refining	....	Dec. 15, 20	33,000	48⅞	49⅝	46⅛	49⅜	+ 1¼
37¼	8½	50¾	28	4,550,110	10	do ctfs	....	.....	8,000	46⅞	47½	45	46⅞	+ ⅜
185	140	165	160	1,977.700	100	do pfd. new	$1.75Q	July 1, 29	.....	.....	.....	.....	.....	.....
39⅛	27⅜	38⅜	26	3,992,387	N.P.	Lago Oil & Transport	....	May 2, 27	3,000	34¼	35	32	32	— ¾
19¾	9⅜	18	10⅜	(sh)1,187,298	N.P.	Louisiana Oil Refining	....	.....	3,500	12½	12½	11½	12	— ⅞
96	78	100	89	$4,000,000	$100	do pfd	$1.62½	Aug. 15, 29	320	90⅜	90⅜	90⅜	90⅜	0
25½	12½	18½	12	(sh) 330,000	N.P.	Maracaibo Oil	....	.....	300	15	15	14¾	15	— ¾
49¾	33	47⅛	33⅛	(sh)2,316,897	N.P.	Marland Oil Co	....	Mar. 31, 27	.....	....	....	....	....	.....
360	250	295	205	$45.942.800	$100	Mexican Petroleum	$3Q	July 20, 29	.....	....	....	....	....	.....
...	....	....	....	12,000,000	100	do pfd	$2Q	July 20, 29	.....	....	....	....	....	.....
73	45⅝	69⅜	33½	(sh) 995,500	N.P.	Mexican Seaboard	....	Nov. 15, 24	11,500	38½	39¼	37	37½	— ⅝
44½	25⅛	39⅞	30½	(sh) 1,857,461	N.P.	Mid-Continent	50cQ	May 15, 29	8,400	35¾	35¾	34¼	34½	— ¾
120½	103¼	121	120¼	$6,718,000	$100	do pfd	$1.75Q	June 1, 29	.....	.....	.....	.....	.....	.....
7⅜	2⅜	5⅛	2½	23,849,720	10	Middle States	....	July 1, 23	9,000	2⅝	2¾	2½	2⅝	0
5⅞	1½	3⅝	2	5,950.500	10	do ctfs	....	.....	3,500	2⅜	2⅜	†2	2	— ¼
2¼	1	1½	1	(sh)3,500,000	N.P.	Pacific Oil	....	.....	2,100	1	1	1	1	0
55½	38¼	69	41⅛	$50,000,000	$50	Pan American P. & T	....	Oct. 20, 27	10,800	65¼	*69	65⅛	67⅝	+ 3
58⅞	37¾	69¼	40½	121,101,400	50	do B	....	Oct. 20, 27	265,600	65⅜	*69¼	65	67¼	+ 2⅜
28⅜	15½	17½	13¾	(sh) 400,000	N.P.	Pan American Western B	....	Jan. 30, 27	110	14½	14½	14½	14½	0
21¾	11½	15¼	7⅜	(sh) 199,370	N.P.	Panhandle P. & R	....	.....	100	10	10	10	10	+ ⅛
106¼	70	76	47½	$2,935,200	$100	do pfd	....	July 2, 23	.....	....	....	....	....	.....
53⅞	35¼	47	35	(sh)2,406,803	N.P.	Phillips Petroleum	37½cQ	July 1, 29	8,900	39⅝	39⅝	37¼	37⅜	— ⅛
5¼	½	3⅝	1½	$29,622,925	$25	Pierce Oil	....	.....	6,500	2⅛	2¼	2	2	0
50	16¼	51½	30	15.000,000	100	do pfd	....	Feb. 1, 22	200	⅜	⅜	⅜	⅜	+ 2½
6⅝	3½	5⅞	4	(sh)2,500,000	N.P.	Pierce Petroleum	....	.....	4,100	4⅞	4⅞	4⅝	4⅞	+ ⅜
64⅝	59½	65⅝	50	$60.636,450	$25	Prairie Oil & Gas	....	Aug. 31, 27	9,100	58⅞	59	58⅛	58⅝	+ 1⅛
.....	....	65	50	101,250,000	25	Prairie Pipe Line	‡75cQ	June 30, 29	5,900	64½	64¾	61	63¾	+ 1¼
29⅞	16	25⅞	11½	37,450,850	50	Producers & Refiners	....	Sept. 15, 23	900	15	15¼	15	15	— 1⅛
49⅜	41	45¾	34	2,845.350	50	do pfd	....	May 1, 25	30	37	37	37	37	— 1
31¼	19	30¾	23½	75,959,255	25	Pure Oil Co	37½cQ	Sept. 1, 29	13,100	27	27½	26¼	26¼	— ¾
119	108	115½	111½	13,000,000	100	do 8% pfd	$2Q	July 1, 29	250	113	113¼	112	113¼	+ ¼
56	23½	49⅝	38⅜	47,127.725	25	Richfield Oil	50cQ	Aug. 15, 29	14,300	43	43⅞	42	42⅞	— ⅛
....	....	42½	26½	(sh) 1,200,000	N.P.	Rio Grande Oil Co	‡$1S.A.	July 25, 29	9,300	29¾	29⅞	28½	29	— ⅝
64	44⅝	55⅜	31¾	(sh) 546,646	$13.40	Royal Dutch N. Y. shares	$1.873	Aug. 10, 29	57,100	54	59¼	53⅞	56⅞	+ 6
57½	39⅜	55⅜	43	(sh) 65,203,000	£2	Shell Transport & T	96.4c	Feb. 8, 29	200	46⅛	46⅛	46⅛	46⅛	+ 1⅛
39⅜	23¼	31⅜	25	12.254,979	N.P.	Shell Union Oil	35cQ	July 1, 29	39,100	29⅜	29⅜	28½	29	0
27¼	18⅛	40⅛	18¼	$8,357,280	$10	Simms Petroleum	40cQ	June 15, 29	16,900	38½	39¼	36¼	36¼	— 1⅜
46¾	17⅜	45	31½	5,494,095	N.P.	Sinclair Consolidated	‡50cQ	July 15, 29	78,900	38	38⅛	37⅛	37½	— ⅜
110	102½	111	107¾	$16,025,200	$100	do pfd	$2Q	Aug. 15, 29	100	109¼	109¼	109¼	109¼	+ ¼
42⅝	25	46½	32⅞	27,396,590	25	Skelly Oil Co	50cQ	June 15, 29	16,100	42⅝	43¼	41½	42⅛	0
80	53	81⅞	64	(sh) 13,016,435	N.P	S. O. California	62½cQ	June 15, 29	39,100	77¼	77¼	75⅜	76½	— ½
59¾	37¾	73⅞	48	$612.095,850	$25	S. O. New Jersey	‡25cQ	June 15, 29	141.100	73⅝	73⅝	71	71¾	— ⅜
45½	28¾	47	37⅝	434.094.575	25	S. O. New York	40cQ	June 15, 29	212,900	46⅜	46⅜	44⅛	44½	— 1⅜
77	31½	75	57	(sh) 1.297.847	N.P.	Sun Oil	25cQ	June 15, 29	500	73	73½	71	71¼	— 2½
110	100	105½	100	$5,000,000	$100	do pfd	$1.50Q	June 1, 29	140	...	101½	101¼	101¼	— ¼
14¼	2½	21½	6	(sh) 1,304,698	N.P.	Superior Oil Corp	....	Dec. 20, 20	5,900	21½	*21½	19½	19¾	— 1¾
74¾	50	71¾	57¼	$211,082,925	$25	The Texas Corp	75cQ	July 1, 29	161,100	70¾	*71¾	70	70¼	— ⅝
26⅝	12⅛	23⅞	15⅛	8,380.340	10	Texas Pacific Coal & Oil	2½%e	June 30, 29	6,900	18¼	18¼	16⅞	17⅜	— ⅞
41½	19⅝	38½	27¼	(sh) 2,179,275	N.P.	Tide Water Oil Co	20cQ	June 30, 29	4,900	35⅛	35¼	34½	35	— ¼
100⅛	86¾	97½	89¾	$20,321,000	$100	do 5½% pfd	$1.25Q	Aug. 15, 29	800	91⅛	91¼	91⅛	91¼	0
25	14¾	23½	17½	(sh) 4,877,976	N.P.	Tide Water Associated	....	Aug. 1, 27	26,900	21½	21½	19⅞	20⅜	— ¼
91⅜	81⅞	90⅞	84	$72,989,200	$100	do pfd	$1.50Q	July 1, 29	900	87⅝	88⅞	87½	88	+ ½
14½	6¾	13	9	(sh) 3,842.029	N.P.	Transcontinental Oil	....	.....	546,100	13⅞	15¼	13⅜	14¾	+ 1
58	42¾	54⅛	45¾	$40,858,375	$25	Union Oil of California	50cQ	Aug. 10, 29	33,800	53⅞	54½	51¼	54	+ 1
128⅛	110	157¾	121⅞	31,101,200	100	Union Tank Car Co	$1.25Q	Sept. 3, 29	400	154¾	154¾	154	154	— 1
44⅞	26	42⅛	28½	(sh) 488,359	N.P.	Warner Quinlan	50cQ	July 2, 29	16,000	34⅜	34⅜	30	30½	— 3½
38	20⅛	40½	30¼	(sh) 490,000	N.P.	White Eagle Oil & Refining	50cQ	July 20, 29	2,800	35¼	35¼	34⅛	34½	— ½
22⅛	17¼	35	17⅜	(sh) 428,967	N.P.	Wilcox Oil & Gas	....	May 10, 28	1,900	20¼	20½	18½	18½	— 1½

*New High †New Low XEx-dividends ‡Also extras e-Stock Total Sales 1,978,460

Pittsburgh Stock Exchange

Transactions Week Ended Aug. 30, 1929

	Sales	High	Low	Last	Change
Ark. Nat. Gas	24,817	*24½	21	24	+3
do pfd	5,742	8½	8⅜	8½	0
Devonian Oil	15,359	17	14⅜	15	0
Dixie Gas & Util	305	*31	26	31	+5
do pfd	60	75½	75	75	0
Houston Gulf Gas	100	21	21	21	+4
Lone Star Gas	19,430	*50	43¼	48¾	+5½
Pet. Explor	25	31	31	31	+ ½
Phoenix Oil pfd	3,100	.80	.70	.80	0
Plymouth Oil	1,491	24	23	24	+1
Wiser Oil	42	15	15	15	0

*New high record.

Pittsburgh Curb Market

Transactions Week Ended Aug. 30, 1929

	Sales	High	Low	Last	Change
Ark. Gas "A"	6,996	24½	21¼	23½	+2½
Leonard Oil & Dev.	500	4½	4	4	—½
Phoenix Oil	10,485	.80	.65	.80	+.15

Can Deduct Missouri Gas Tax

CLEVELAND, Aug. 31.—The bureau of internal revenue has ruled that Missouri motorists may deduct the 2 cent gasoline tax from their income on tax returns. At the same time it was ruled that the Kansas City, Mo., city tax cannot be deducted.

Second Statistical Book Published by A.P.I.

NEW YORK, Aug. 30.—The second edition of "Petroleum Facts and Figures," statistical compilation and handbook of general information on the oil industry, has been put out by the public relations department of the American Petroleum Institute.

This edition brings down to date statistical material contained in the first edition which came off the press in 1928. Several new sections have been added.

In the book are included producing, refining and marketing statistics, oil prices over a period of years, tax information, aircraft data, and figures on transportation and storage of oils. The book also tells of the various uses of major refined products, and gives pertinent and interesting facts on the industry from the early days down to the recent conservation problems and the code of marketing ethics.

Price of the book is $2 and it may be obtained from the institute at 250 Park avenue, New York City.

Cleveland Stock Market

Aug. 30	Par Value	Bid	Asked
Canfield Oil Co	$100	...	149
do pfd	100	104	...
Fred G. Clark	10	12	13
National Refining	25	37¾	40
do pfd	100	..	135
Paragon Refining	25	..	22
do pfd	N.P.	..	42
do ctfs	..	..	23

CLEVELAND, Aug. 30.—The Interstate Commerce Commission has awarded reparations to the A.B.A. Oil Co. and seven other jobbers in Nebraska as a result of their complaint against freight rates on petroleum products. Payments total $13,745.40 with interest from July 1, 1923.

Neon border in red for attention power combined with Flexlume raised glass letters for striking day and night effect.

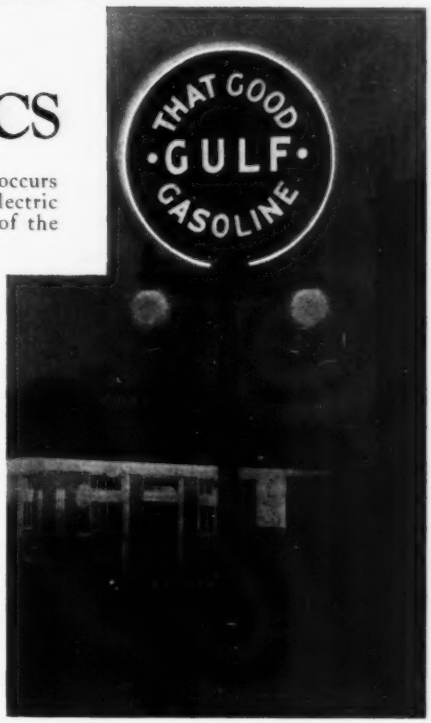
The NEWEST *Idea in* ELECTRICS

WHETHER the greater part of your gas and oil sales occurs during daylight or evening hours, this latest type of electric sign will give you contact with passing traffic every minute of the day and night.

It utilizes the drawing power of red, blue or green neon* borders combined, for pleasing and highly legible contrast, with the brilliance of Flexlume raised glass letters illuminated from within.

**(NOTE: Neon, from Greek word meaning new, the common name for a gas constituent of air discovered by the English scientist, Sir William Ramsay)*

These striking station-location electrics require less of an investment to own; they operate without irritating interruptions; they are maintained without difficulty. Let us submit details and color sketch of a Flexlume—neon, neon bordered, raised glass letter or combination design—to satisfy your exact needs. FLEXLUME CORPORATION, 1977 Military Road, Buffalo, N. Y.



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WHITE MINERAL OILS

For 35 years of reliability, service and integrity— this Company enjoys an International Reputation

JAMES B. BERRY SONS' CO., INC.
General Office—Oil City, Pa.

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Filling Station Executive

The management of a large oil Company is looking for an executive who has helped in the organization and operation of chain filling stations.

Essential to have complete understanding of all phases of operation, ability to handle expansion program involving acquisition of existing chain stations, purchase of sites and the erection of new stations. To receive consideration, state age, education, religion, brief outline of experience and salary required to Box 441, Room 200 Times Bldg., N. Y. City.

Standard Oil Stocks on New York Curb

1928 High	1928 Low	1929 High	1929 Low	Outstanding Capital	Par Value	Stocks	Div. Rate	Last Paid	Transactions Week Ended Aug. 31 Sales	First	High	Low	Last	Change
22⅜	14⅞	18¾	14¼	£4,126,460	£ 1	Anglo-American Oil	36c	June 5, 29						
21¼	15	18	13	.....	....	do certificates	36c	June 5, 29	1,800	15	15⅛	15	15	0
20½	14⅜	17	12¾	.....	L 1	do cts. non-voting	36c	June 5, 29	500	13	13¼	13	13¼	+ ⅛
5	1¼	2⅜	1⅛	(sh) 500,000	N.P.	Atlantic Lobos	.....	.....						
9¾	3¼	4½	1½	$10,000,000	$50	do pfd			400	2½	2½	2	2	— ¼
56	44½	46½	26	$1,000,000	25	Borne-Scrymser	‡$1S.A.	Apr. 15, 29						
76	58	74¼	58⅛	10,000,000	50	Buckeye Pipe Line	‡$1Q	June 15, 29	100	68	68	68	68	+ ⅛
161	117¼	210	140⅛	3,000,000	25	Chesebrough Mfg	‡$1Q	June 30, 29						
23	16	29	16⅞	36,123,350	10	Continental Oil	.....	Dec. 15, 27	8,100	20⅛	21⅜	20⅛	21¼	— ¼
17½	9½	11⅜	7⅜	.....	N.P.	Creole Petroleum	.....	.....	1,200	9¼	9½	8⅞	9¼	+ ¼
82	67	95	62	1,500,000	50	Cumberland Pipe Line	$1Q	June 15, 29						
88	64⅛	70½	55½	5,000,000	100	Eureka Pipe Line	$1Q	Aug. 15, 29						
13	4¼	6⅝	5	16,000,000	100	Galena Signal Oil	.....	June 30, 25						
86	26	90	73½	4,000,000	100	do new pfd	....	June 30, 26						
89¾	35	88	73½	2,000,000	100	do old pfd	.....	June 30, 26	10	80	80	80	80	0
114¾	59¼	126⅞	89¾	73,685 700	25	Humble Oil & Refining	‡30cQ	July 1, 29	7,400	124⅞	124⅞	121⅛	123⅜	— 2
290½	176½	340½	285	20,000,000	100	Illinois Pipe Line	$10S.A.	June 15, 29	100	305	305	303½	303½	— 2½
104	56¾	119⅜	88	(sh) 6,605,442	N.P.	Imperial of Canada	12½cQ	Sept. 2, 29						
....	....	....	....	.....	....	do new	....	....	11,400	34⅛	37⅞	34	37⅞	+ 3½
91⅞	74⅝	106½	81¼	$5,000,000	$50	Indiana Pipe Line	‡$1Q	Aug. 15, 29						
....	....	....	....	.....	....	do new	....	....	2,800	30	30	29¾	29¾	— ¼
55	35	65½	46⅛	(sh) 7,123,544	N.P.	International Petroleum	12½c	June 25, 29						
....	....	....	....	.....	....	do new	....	....	21,500	26⅞	39⅜	26½	29	+ 2½
32⅜	19⅜	25⅞	21⅜	$6 363,350	12.50	National Transit Co	25cQ	June 15, 29	200	22¼	22⅜	21½	22⅜	0
75	38½	85	72	5,000,000	100	New York Transit	....	July 15, 26						
....	....	....	....	.....	....	do new	....	....						
69	56½	63	52	2,000,000	50	Northern Pipe Line	$2S.A.	July 1, 29						
83½	58½	79⅞	64¼	60,000,000	25	Ohio Oil Co	50cQ	June 15, 29	200	74½	75½	74	75⅛	+ ⅛
84	28	44⅜	23⅛	10,000,000	25	Penn Mex. Fuel	75c	Dec. 16, 28	500	31½	31½	29¾	31⅛	— ⅛
220	167	50	36½	4,000,000	25	Solar Refining	$1.25S.A.	June 20, 29	100	36⅜	36½	†36½	36½	— 1¼
19	12	22⅜	13	1,000,000	10	Southern Pipe Line	$1	Mar. 1, 29	200	20½	20¾	20	20	— ¾
71⅞	36¾	60¼	40⅜	30,000,000	25	South Penn Oil	50cQ	June 30, 29	600	51	51	49⅝	50	— 1½
102	70	70	62¾	1,750,000	50	South West Pa. Pipe Lines	$1	July 1, 29						
95⅞	70⅞	103¼	51½	348,175,069	25	S. O. Indiana	62½cQ	June 15, 29	71,500	56¾	59¼	56¾	57⅝	+ 1⅛
27¾	15	26	18	8,000,000	25	S. O. Kansas	....	June 16, 24	2,300	23¼	25	23¼	24	+ ¾
49	44	45¼	35⅝	25,654,516	10	S. O. Kentucky new	40cQ	June 30, 29	4,300	37½	38	36¾	37⅜	— ½
54⅝	39⅞	50¼	45½	4,649,225	25	S. O. Nebraska	‡62½cQ	June 20, 29	200	48¾	48¾	48	48	— ⅞
134	71	129	110¼	14,000,000	25	S. O. Ohio	62½cQ	July 1, 29	250	121¾	123	118	120	+ 3
125	116	124½	113½	7,000,000	100	do pfd	$1.75Q	Sept. 3, 29	40	115	116¼	114¾	115¾	+ 1¼
23½	16	18	14	861,466	25	Swan Finch Co	30c	Jan. 15, 29						
111	72	133¾	105½	126,154,000	25	Vacuum Oil	$1Q	June 20, 29	4,700	126½	128	124	126	— 1⅜

*New High †New Low ‡Also Extras

Independent Oils on New York Curb

1928 High	1928 Low	1929 High	1929 Low	Par Value	Stocks	Transactions Week Ended Aug. 31 Sales	First	High	Low	Last	Change
1½	.53	.72	.25	$ 5	Amer. Cons. Oilfields	9,700	⅜	⅜	†¼	⅜	0
9½	3⅛	8⅝	3½	N.P.	Amer. Maracaibo	3,800	4	4	3⅝	3⅞	+ ⅛
4½	2¼	5	1⅞	$ 10	Argo Oil	400	2⅜	2⅜	2	2	— ½
3¾	3⅜	24½	3¾	N.P.	Arkansas Nat. Gas	212,500	22⅝	*24½	22⅜	24	+ 2
....	....	24½	6¾	N.P.	do A	115,300	22⅝	*24½	22	24	+ 2
....	....	9	7⅞	10	do pfd	3,600	8¼	8½	8¼	8½	+ ¼
55	32¾	67⅛	50	N.P.	British American Oil	800	63	*67⅛	63	65½	+15
23⅞	3¾	4⅞	2⅝	25c	Carib Syndicate	1,400	3⅛	3¼	3	3	— ⅜
....	....	52	27¾	N.P.	Cities Service new	88,000	50⅞	*52	49⅞	52	+ 1⅜
103½	94½	98½	88¾	100	do pfd	1,500	94½	94⅞	94⅜	94⅞	— ⅛
9⅜	8⅞	9¼	8¾	10	do pref. B						
97	88½	96	90	100	do pref. BB	100	90	90	90	90	0
2¼	1	1½	⅝	1	Colombia Syndicate	3,200	⅞	⅞	¾	⅞	+ ⅛
17⅜	9¾	15	6	N.P.	Colon Oil	2,400	8⅞	9½	8¾	9	0
8⅞	6¼	11⅜	4⅞	10	Consolidated Royal	100	5¾	5¾	5⅜	5⅝	0
....	....	100	45	N.P.	Cosden Oil Co	2,300	94	*100	93	98	+ 4⅞
....	....	82	71	....	do pfd	1,500	79½	*82	79½	81	+ 1½
3¼	.76	2½	1⅜	N.P.	Crown Central						
15	6¾	11¾	8	N.P.	Crystal Oil						
50	48	51⅜	51⅜	$100	do pfd						
33½	8⅛	26	12	N.P.	Darby Petroleum	400	13	13	12¼	12¼	— 1
2⅞	1	10⅞	2	N.P.	Derby Oil & Refining	2,100	7¼	7½	7⅛	7½	— ⅝
21⅜	7½	44	20⅞	N.P.	do pfd						
165	101¼	209	142⅜	$25	Gulf Oil Corp	14,800	202	206½	201	205¼	+ 4⅜
7½	5⅜	7½	3⅜	5	Homaokla Oil	5,800	4	4	3⅝	3⅜	0
3⅜	1	2⅞	1⅜	10	Intercontinental Pet	7,100	1¼	1¼	1⅛	1¼	+ ⅛
3	⅛	3⅜	1½	N.P.	Kirby Petroleum	900	2⅛	2⅛	2⅛	2⅛	— ¼
9⅜	5⅛	6⅜	2⅜	N.P.	Leonard Oil & Dev	4,800	4¼	4½	3¾	4	— ½
43⅜	20	38⅞	24¾	N.P.	Lion Oil & Refg	2,700	34	34	33¾	33¾	— 1¼
69⅛	48⅜	87	67	$25	Lone Star Gas						
....	....	50	32¼	....	do new	10,800	43¼	*50	43¼	48½	+ 5¾
1⅛	.50	1¼	⅝	1	Magdalena Syndicate	3,400	1⅛	¾	½	½	— ¼
48½	32	38½	21¾	N.P.	Margay Oil						
8	2¾	6⅜	3	N.P.	Mexico-Ohio Oil						
....	....	42	15⅞	N.P.	Missouri-Kan. P. L	6,300	31⅞	31⅞	29⅜	30⅛	— 1½
1¾	.76	1⅜	⅜	1	Mountain & Gulf	900	⅞	⅞	⅞	⅞	0
28⅞	19½	22⅞	11⅛	10	Mountain Producers	6,400	12¾	13⅜	12½	13¼	+ ½
....	....	43⅞	24¾	N.P.	Nat. Fuel Gas (new)	6,800	37	39½	36	37⅛	+ ⅛
5⅜	4¼	5	3	5	New Bradford	300	3¼	3½	3⅛	3⅛	— ⅛
5½	3	3½	3	10	New England Fuel						
11⅞	7⅛	9⅜	5½	1	New Mex. & Ariz	100	6⅞	6⅞	5⅛	5⅛	— 1⅛
15½	11½	24½	16	25	New York Petrol	200	18⅜	18¾	18	18	— ½
13¼	8⅜	18½	8¾	N.P.	North Cent. Texas	200	14⅝	14⅝	14⅛	14½	0
....	....	19¼	12½	N.P.	Oil Stock, Ltd. A	200	14½	15	14⅛	15	+ ⅜
....	....	18¼	14½	N.P.	do B	1,000	15¼	15¼	15	15¼	— ⅛
26¼	20	23¼	14½	N.P.	Pacific Western Oil	300	15⅛	15½	15⅛	15½	— ¼
6	2¼	3½	1	N.P.	Pandem	5,100	1⅛	1⅛	1	1⅛	0
15⅝	8½	10¼	5½	N.P.	Pantapec	400	5⅛	6	5½	5¾	+ ⅛
20	10⅝	25½	22½	$25	Paragon Refg. B. ctfs						
7¾	4⅞	7⅜	4⅜	$10	Pennok Oil						
....	....	34½	25½	N.P.	Petroleum Corp	1,900	27¾	28	27⅜	27¼	— ¾
5⅜	3⅛	....	....	$ 5	Pittsburgh Oil & Gas						
31⅜	26½	30	22	N.P.	Plymouth Oil	400	23¼	23¼	23	23¼	0
18	8	16	10	25	Red Bank Oil	100	10	10	†10	10	— ½
13	4⅛	8½	4½	N.P.	Reiter-Foster	300	4⅞	5	4⅝	5	0
31⅜	23¼	25½	23⅞	$25	Richfield pfd						
....	....	29	23	....	Root Refining pfd	100	25¼	25¼	25¼	25¼	— ¼
12	4⅜	11	5	N.P.	Ryan Consolidated	500	5½	5½	5⅜	5½	— ⅛
7¼	5½	5⅞	2	$10	Salt Creek Cons	100	2½	2½	2½	2½	— ⅛
35	23¼	25⅞	13	10	Salt Creek Prod	1,400	15	15½	15	15⅜	+ ½
3½	1	2½	½	5	Savoy Oil						
40	27	33⅜	32	25	Shreveport El Dorado						
....	....	24	14½	N.P.	Southland Royalty	1,300	15¾	15¾	14¾	15	— ¼
....	....	23	12⅝	N.P.	Texon Oil & Land new	900	14⅜	14⅜	13	13½	+ ⅛
22⅞	13	16⅞	11⅜	$10	Tidal Osage						
21¼	13⅜	16½	10⅛	10	do not-voting						
93¾	75	155	80	100	Transcontinental pfd						
74¼	18	81⅛	66	10	Venezuela-Mexico	900	80½	*81⅛	78	81⅛	+ ⅛
9⅛	4⅛	6½	3	5	Venezuelan Petrol	3,000	3⅞	4	3¾	3⅞	+ ⅛
8¼	4¼	9⅛	4¼	1	Woodley Petroleum	2,100	4¼	4¼	4⅛	4¼	0
⅝	⅛	5⅜	1	25	Y Oil & Gas						

*New High †New Low

New York Curb Bonds

Week Ending Aug. 30, 1929

	High	Low	Last	Change
Beacon Oil 6s '36	122	120	122	+3
Cities Serv. 5s '66	84	83	83¼	— ⅜
Cities Serv. G. 5½s '42	87¼	86¾	86¾	— ¾
Cities Serv. G. P. 6s '43	93	93	93	— ½
Cont. Oil 5¼s '37	94	92¼	92½	— 1⅜
Empire O & R 5½s '42	87¼	86½	87¼	+ ⅛
Gulf Oil 5s '37	98	97¾	98	0
Gulf Oil 5s '47	100	99¼	99½	— ⅛
Indep. Oil 6s '39	109⅝	109	109	— ⅛
Sun Oil 5½s '39	100	99½	100	+1

Oil Dividends

	Amount	Payable	Stock of Record
Associated Oil q	50c	Sept. 30	Sept. 16
Chesebrough Mfg. q	$1	Sept. 30	Sept. 10
do extra	50c	Sept. 30	Sept. 10
Cities Service m	2½c	Oct. 1	Sept. 15
do stock m	½%	Oct. 1	Sept. 15
do pfd. m	50c	Oct. 1	Sept. 15
do pref. BB m	50c	Oct. 1	Sept. 15
do pref. B m	5c	Oct. 1	Sept. 15
Cumberland P. L. q	$1	Sept. 16	Aug. 31
Honolulu Cons. Oil q	50c	Sept. 14	Sept. 5
Houston Gulf Gas pfd. q	$1.75	Sept. 1	Aug. 15
N. Cent. Texas pfd. q	$1.62½	Oct. 1	Sept. 10
Nat'l. Transit q	25c	Sept. 16	Aug. 31
Phillips Pet. q	37½c	Oct. 2	Sept. 16
Prairie Oil & Gas q	50c	Sept. 30	Aug. 31
do extra	25c	Sept. 30	Aug. 31
Prairie Pipe Line q	75c	Sept. 30	Aug. 31
do extra	50c	Sept. 30	Aug. 31
Pure Oil 5¼% pfd. q	$1.25	Oct. 1	Sept. 10
do 6% pfd. q	$1.50	Oct. 1	Sept. 10
do 8% pfd. q	$2	Oct. 1	Sept. 10
Shell Union q	35c	Sept. 30	Sept. 4
do pfd. initial q	$1.37½	Oct. 1	Sept. 5
Sinclair Cons. Oil q	50c	Oct. 15	Sept. 14
do extra	25c	Oct. 15	Sept. 14
South Penn q	50c	Sept. 30	Sept. 14
S. W. Pa. Pipe Lines q	$1	Oct. 1	Sept. 6
S. O. Kentucky q	40c	Sept. 30	Sept. 16
S. O. Ohio q	62½c	Oct. 1	Sept. 6
The Texas Corp. q	75c	Oct. 1	Sept. 6

New York Bonds

Week Ending Aug. 30, 1929

	High	Low	Last	Change
Assoc. Oil gold 6s	102½	102½	102½	— ½
Atlantic Refg. deb. 5s	100¼	100	100	—1
Cal. Pet. 5s	96¾	96	96⅝	— ⅞
Cal. Pet. 5½s	100	98¼	99¾	+1¼
General Asphalt 6s	105½	104½	104½	—2½
General Pet. 5s	100¼	100¼	100¼	+ ⅛
Humble Oil & Refg. 5s	99⅞	99⅝	99⅝	— ⅛
Humble Oil & Refg. 5½s	100½	100	100½	+ ½
Pan Amer. P & T 7s	104½	104½	104½	0
Pan Amer. P & T 6s	110	108½	109¾	+ ½
Pan Amer. P & T 6s	93½	93½	93½	—1½
Phillips Pet. 5¼s	90	88¾	89⅝	— ⅛
Pure Oil 5½s	98	97½	97⅞	0
Shell Union Oil 5s	97	95	95¾	— ¼
Sinclair Con. Oil 7s	102	101¼	101½	— ¼
Sinclair Con. Oil 6½s	99½	98	99	+ ⅛
Sinclair Con. Oil 6s D	91¾	98	98	— ⅝
SinclairCon.OilCrude5½s	95½	95⅛	95¼	— ¼
Sinclair Pipeline 5s	93	92½	92½	0
Skelly Oil 5½s	90¼	90	90	—1
S. O. N. Y. 4½s	94½	92	93½	— ½
S. O. N. J. 5½s	101½	100¾	101¼	+ ¼
Union Oil of Calif. 6s A	106	105⅜	105⅜	— ⅜
Union Oil of Calif. 1st 5s A	99¾	99¾	99¾	—1½
Union Oil of Calif. 5s C	96⅜	96⅛	96⅜	+ ⅛
White Eagle Oil 5½s	101½	100½	100½	— ½